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Letter dated 26 January 2018 from the Panel of Experts on Yemen mandated by Security Council resolution 2342 (2017) addressed to the President of the Security Council

The members of the Panel of Experts on Yemen have the honour to transmit herewith the final report of the Panel, prepared in accordance with paragraph 6 of resolution 2342 (2017).

The report was provided to the Security Council Committee established pursuant to resolution 2140 (2014) on 9 January 2018 and considered by the Committee on 23 January 2018.

We would appreciate it if the present letter and the report were brought to the attention of the members of the Security Council and issued as a document of the Council.

(*Signed*) Ahmed **Himmiche**
Coordinator
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mandated by Security Council resolution 2342 (2017)

(*Signed*) Fernando Rosenfeld **Carvajal**
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Final report of the Panel of Experts on Yemen

Summary

After nearly three years of conflict, Yemen, as a State, has all but ceased to exist. Instead of a single State there are warring statelets, and no one side has either the political support or the military strength to reunite the country or to achieve victory on the battlefield.

In the north, the Houthis are working to consolidate their hold on Sana'a and much of the highlands after a five-day street battle in the city that ended with the execution of their one-time ally, former President Ali Abdullah Saleh (YEi.003), on 4 December 2017. In the days and weeks that followed, the Houthis crushed or co-opted much of what remained of the former President's network in Yemen.

In the south, the Government of President Abd Rabbuh Mansur Hadi was weakened by the defection of several governors to the newly formed Southern Transition Council, which advocates for an independent south Yemen. Another challenge for the Government is the existence of proxy forces, armed and funded by member States of the Saudi Arabia-led coalition, who pursue their own objectives on the ground. The battlefield dynamics are further complicated by the terrorist groups Al-Qaida in the Arabian Peninsula (AQAP) and Islamic State in Iraq and the Levant (ISIL) (Da'esh), both of which routinely carry out strikes against the Houthis, the Government and Saudi Arabia-led coalition targets.

The end of the Houthi-Saleh alliance opened a window of opportunity for the Saudi Arabia-led coalition and forces loyal to the Government of Yemen to regain territory. This window is unlikely to last for long, however, or to be sufficient in and of itself to end the war.

The launch of short-range ballistic missiles, first by forces of the Houthi-Saleh alliance and subsequently, following the end of the alliance, by Houthi forces against Saudi Arabia, changed the tenor of the conflict and has the potential to turn a local conflict into a broader regional one.

The Panel has identified missile remnants, related military equipment and military unmanned aerial vehicles that are of Iranian origin and were brought into Yemen after the imposition of the targeted arms embargo. As a result, the Panel finds that the Islamic Republic of Iran is in non-compliance with paragraph 14 of resolution 2216 (2015) in that it failed to take the necessary measures to prevent the direct or indirect supply, sale or transfer of Borkan-2H short-range ballistic missiles, field storage tanks for liquid bipropellant oxidizer for missiles and Ababil-T (Qasef-1) unmanned aerial vehicles to the then Houthi-Saleh alliance.

The Houthis have also deployed improvised sea mines in the Red Sea, which represent a hazard for commercial shipping and sea lines of communication that could remain for as long as 6 to 10 years, threatening imports to Yemen and access for humanitarian assistance through the Red Sea ports.

Yemen's financial system is broken. There are competing central banks, one in the north under the control of the Houthis, and one in the south under the control of the Government. Neither is operating at full capacity. The Government is unable to effectively collect revenue, while the Houthis collect taxes, extort businesses and seize assets in the name of the war effort.

Yemen has a liquidity problem. Salaries throughout the country often go unpaid, meaning that medicine, fuel and food, when available, are often prohibitively expensive. New profiteers are emerging as a result of the war and the black market now threatens to eclipse formal transactions.

Although Ali Abdullah Saleh is now deceased, it is likely that Khaled Ali Abdullah Saleh, acting on behalf of Ahmed Ali Abdullah Saleh (YEi.005), will continue to control the wealth of the Saleh family. There is no indication, as yet, as to whether he will use this wealth to support acts that threaten the peace, security or stability of Yemen.

Throughout 2017, there have been widespread violations of international humanitarian law and international human rights law by all parties to the conflict. The air strikes carried out by the Saudi Arabia-led coalition and the indiscriminate use of explosive ordnance by Houthi-Saleh forces throughout much of 2017 continued to affect civilians and the civilian infrastructure disproportionally. The Panel has seen no evidence to suggest that appropriate measures were taken by any side to mitigate the devastating impact of these attacks on the civilian population.

The rule of law is deteriorating rapidly across Yemen, regardless of who controls a particular territory. The Government of Yemen, the United Arab Emirates and Houthi-Saleh forces have all engaged in arbitrary arrests and detentions, carried out enforced disappearances and committed torture. The Houthis have summarily executed individuals, detained individuals solely for political or economic reasons and systematically destroyed the homes of their perceived enemies. The Houthis also routinely obstruct humanitarian access and the distribution of aid.

Following the missile attack on Riyadh on 4 November 2017, the Saudi Arabia-led coalition ordered the closure of all land crossings into, and all seaports and airports in Yemen. Entry points under the control of the Government of Yemen were quickly re-opened, while those under the control of the Houthis, such as Hudaydah, remained closed for weeks. This had the effect of using the threat of starvation as an instrument of war.

Delays and unpredictability resulting from the current inspection regime for the Red Sea ports have created additional barriers and business risks for shippers and importers supplying Yemen. The confidence of the Saudi Arabia-led coalition in the United Nations inspection process must be improved to ensure an increased flow of essential supplies and humanitarian aid through the Red Sea ports.

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* The annexes are being circulated in the language of submission only and without formal editing.

Final report of the Panel of Experts on Yemen

I. Introduction

A. Mandate and introduction

1. By its resolution 2342 (2017), the Security Council renewed the sanctions measures in relation to Yemen and further extended the mandate of the Panel of Experts on Yemen until 28 March 2018. The Panel is mandated to:

(a) Assist the Security Council Committee established pursuant to resolution 2140 (2014) in carrying out its mandate as specified both in resolutions 2140 (2014) and 2216 (2015), including by providing the Committee at any time with information relevant to the potential designation at a later stage of individuals and entities who may be engaging in acts that threaten the peace, security or stability of Yemen, as defined in paragraph 18 of resolution 2140 (2014) and paragraph 19 of resolution 2216 (2015);

(b) Gather, examine and analyse information from States, relevant United Nations bodies, regional organizations and other interested parties regarding the implementation of the sanctions measures and targeted arms embargo, in particular incidents undermining the political transition;

(c) Provide a midterm update to the Committee no later than 28 July 2017, and a final report to the Security Council no later than 28 January 2018, after discussion with the Committee;

(d) Assist the Committee in refining and updating information on the list of individuals subject to sanctions measures, including through the provision of identifying information and additional information for the publicly available narrative summary of reasons for listing;

(e) Cooperate with other relevant expert groups established by the Security Council, in particular the Analytical Support and Sanctions Monitoring Team established by Council resolution 1526 (2004).[1]

2. On 1 August 2017, the Panel presented a midterm update to the Committee,[2] in accordance with paragraph 6 of resolution 2342 (2017). An additional update containing information on the obstruction of commercial shipping through Red Sea ports in Yemen controlled by the Houthi-Saleh forces[3] was submitted to the Committee on 31 March 2017, and two updates on an escalation in relation to a missile attack against Riyadh on 4 November 2017 were submitted to the Committee on 10 and 24 November 2017.

3. The present report covers the period from 1 January 2017 to 31 December 2017. The Panel has also continued to investigate outstanding issues covered in its previous report, dated 31 January 2017 (S/2017/81).

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[1] The Monitoring Team established by resolution 1526 (2004) and extended by resolution 2253 (2015).

[2] The midterm update and the additional updates provided to the Committee and to the members of the Security Council are confidential (archived in the files of the Secretariat).

[3] Houthi-Saleh forces refers to the armed units of the alliance up until its collapse on 1 December 2017.

B. Methodology

4. In its investigations, the Panel complied with paragraph 11 of resolution 2342 (2017), which pertains to the best practices and methods recommended in the report of the Informal Working Group of the Security Council on General Issues of Sanctions (S/2006/997). The Panel placed emphasis on adherence to standards regarding transparency and sources, documentary evidence, corroboration of independent verifiable sources and providing the opportunity to reply.[4] The Panel has maintained transparency, objectivity, impartiality and independence in its investigations and has based its findings on a balance of verifiable evidence.

5. The Panel used satellite imagery of locations in Yemen procured by the United Nations from private providers to support investigations. It also used information from commercial databases that record maritime and aviation data and mobile phone records. Public statements by officials through official media channels were accepted as factual, unless contrary facts were established. While the Panel has been as transparent as possible, in situations in which identifying sources would expose them or others to unacceptable safety risks, the Panel decided not to include identifying information in the report and assigned the relevant evidence for safekeeping in United Nations archives.

6. The Panel reviewed social media, but no information gathered was used as evidence unless it could be corroborated using multiple independent or technical sources, including eyewitnesses, in order to meet the highest achievable standard of proof.

7. The spelling of place names within Yemen is often dependent on the ethnicity of the source or quality of translation. The Panel has adopted a consistent approach in the report, with personal names and major place names spelled out as in previous United Nations documents and in accordance with the standard spelling found in the United Nations Terminology Reference System (UNTERM). Dates in documents provided by Member States given according to the Islamic calendar have been converted to the corresponding dates according to the Gregorian calendar.

C. Programme of work

8. In the course of its investigations Panel members have travelled to Belgium, Djibouti, Egypt, Ethiopia, France, the Islamic Republic of Iran, Israel, Italy, Jordan, the Netherlands, Oman, Qatar, Saudi Arabia, Spain, Sweden, Turkey, the United Arab Emirates, the United Kingdom of Great Britain and Northern Ireland, the United States of America and Yemen. The Panel twice requested official visits to areas of Yemen (Ma'rib and Mukalla) under the control of the legitimate Government; on both occasions the response from the legitimate Government and Saudi Arabia was too late to allow for the United Nations travel approval and security processes to be completed.

9. The Panel requested visits to territory controlled by the Houthi-Saleh alliance (Sana'a and Ta'izz) on three separate occasions. The Sana'a-based authorities initially approved the first visit, but withdrew that approval 24 hours later. They did not respond the subsequent two requests after informing the Panel that they did not wish to cooperate with it.[5]

10. Oman initially agreed to a visit to the Mazyunah border crossing point with Yemen but cancelled the visit immediately prior to the Panel's departure for Oman.

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[4] Information on methodology and opportunity to reply is contained in annex 1.

[5] Letter to the Panel dated 23 March 2017.

D. Cooperation with stakeholders and organizations

1. United Nations system

11. The Panel wishes to highlight the excellent level of cooperation with the Office of the Special Envoy of the Secretary-General for Yemen and the United Nations resident coordinators in the neighbouring States visited by the Panel. The United Nations country team and United Nations agencies with a regional mandate remain supportive of the Panel's work. The Panel has consistently had direct access to country team officials in Sana'a and the wider region to exchange information and expertise.

12. In conformity with paragraph 7 of resolution 2342 (2017), the Panel has maintained close cooperation with the Analytical Support and Sanctions Monitoring Team concerning Islamic State in Iraq and the Levant (ISIL) (Da'esh), Al-Qaida and the Taliban and associated individuals and entities,[6] the Somalia and Eritrea Monitoring Group,[7] and the Secretariat staff working on the implementation of resolution 2231 (2015).

2. Communications with Member States

13. The Panel has sent 192 letters to Member States and entities requesting information on specific issues relevant to its mandate. The Panel wishes to affirm that such requests for information do not necessarily imply that those Governments, or individuals or entities in those States, have been violating the sanctions regime. The Panel notes, however, that 25 per cent of requests to Member States for information are still awaiting a response. At the time of submission of the present report, replies are awaited from: Australia, France, the Islamic Republic of Iran, Marshall Islands, Oman, the Russian Federation, Saudi Arabia, Serbia, Togo, the United Arab Emirates, the United Kingdom and Yemen. Furthermore, the ministry of foreign affairs, based in Sana'a, and several other entities have not yet replied. A summary of the Panel's correspondence during the reporting period is contained in annex 3 to the present report.

3. Government of Yemen

14. The Panel met the Prime Minister of Yemen, Ahmed Bin Dagher, and other officials of the legitimate Government of Yemen in Aden in March 2017.[8] Although they expressed full support to the Panel, they provided information of insufficient evidential quality.

4. Houthi-Saleh alliance

15. The Panel maintained phone contact with representatives of the Houthi Ansarallah movement and the leaders of the General People's Congress. The Panel also met with some of their representatives during visits to countries in the region.

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[6] Established by resolution 1526 (2004) and extended by resolution 2253 (2015).

[7] Established by resolutions 751 (1992) and 1907 (2009), and recently extended by resolution 2317 (2016).

[8] In order to avoid confusion between the Government of Yemen and Houthi-Saleh alliance authorities and appointments, and to easily distinguish between the two in the present report, for Government of Yemen ministries and Government officials the Panel will use capitalization, for example, "Minister of Defence" and "Ministry of Defence". The Houthi duplicate administration would then be referred to as, the "Sana'a based minister of defence" and the "Sana'a based ministry of defence". Similarly, military ranks and appointments will follow the same format, for example, "General" and "general", "35th Armoured Brigade" and "62nd mechanized brigade" and so forth.

II. Threats to the peace, security or stability of Yemen

16. In paragraph 18 of resolution 2140 (2014), the Security Council determined that obstructing or undermining the successful completion of the political transition, as outlined in the Gulf Cooperation Council initiative and the implementation mechanism agreement, poses a threat to the peace, security or stability of Yemen and can be used as designation criterion.

A. Challenges to the authority of the legitimate Government of Yemen

17. The authority of the legitimate Government of Yemen has now eroded to the point that it is doubtful whether it will ever be able to reunite Yemen as a single country. The Panel bases this assessment on the following four factors: (a) President Hadi's inability to govern from abroad; (b) the formation of a "Southern Transitional Council", with the stated goal of creating an independent south Yemen; (c) the continued presence of the Houthis in Sana'a and much of the north; and (d) the proliferation and independent operations of proxy military forces funded and armed by members of the Saudi Arabia-led coalition.

18. President Hadi remained outside Yemen for much of 2017.[9] Several Governors either resigned or were removed[10] from their posts by President Hadi, including Nayif Salim Saleh al-Qaysi (QDi.402),[11] the then Governor of Bayda', who was sanctioned by the United Nations on 22 February 2017 for providing support to an Al-Qaida branch in Yemen.[12] The legitimate Government's inability to pay salaries to civil servants, soldiers and other Government employees has also undermined its authority and diminished popular support.

1. Southern Transitional Council

19. On 11 May 2017, the former Governor of Aden, Major General Aydrus al-Zubaydi, announced the formation of the Southern Transitional Council[13] with the stated goal of creating an independent south Yemen.[14] On 30 November 2017 the Council announced the names of the 303 members of a "National Assembly".[15]

20. Throughout 2017, support for the Southern Transitional Council and its goal of an independent south Yemen has grown among the population as well as within the Yemeni Armed Forces and proxy forces. Uniformed members of the Security Belt Forces are frequently photographed at Council rallies carrying flags of the former People's Democratic Republic of Yemen. The Panel has also identified elements of the Hadrami Elite Forces posting Council logos and the flag of the former southern State at their checkpoints.

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[9] Hadi's last publicly reported visit to Yemen was in February 2017.

[10] For a list of current Governors loyal to the legitimate Government see annex 4.

[11] See annex 5 for the network of Nayef al-Qaysi.

[12] Al-Qaysi was removed from his post as Governor on 23 July 2017.

[13] Information provided in the Panels' 2017 confidential midterm update report (paras. 9 and 10). For the leadership of the Southern Transitional Council see annex 7.

[14] South Yemen was an independent State from 1967 until unification in 1990.

[15] The first meeting was held in Aden on 23 December 2017. Ahmed bin Breik was elected president and Anis Youssef Ali Luqman as vice-president. The distribution of seats is: Hadramawt, 100 seats; Aden, 62 seats; Shabwah, 37 seats; Lahij, 36 seats; Abyan, 31 seats; Mahrah, 24 seats; Dali', 10 seats; and Socotra, 3 seats. Websites of the Southern Transitional Council can be viewed in Arabic (http://www.southerntransitionalcouncil.net/) and English (http://en.southerntransitionalcouncil.net/) (all hyperlinks, unless otherwise indicated, accessed on 29 December 2017). The Council has opened local or branch offices in all eight governorates. For a list of names see annex 7.

2. Houthi-Saleh alliance

21. Until its collapse in early December 2017 the Houthi-Saleh alliance, through its joint supreme political council, continued to undertake roles and responsibilities exclusively within the authority of the legitimate Government.[16] The Houthis have now taken unilateral control of all State institutions within their territory. The longer they remain in control, the more entrenched they will become.[17]

B. Impediments to the cessation of hostilities and to the resumption of the political process

22. No real progress towards a peaceful settlement was made during 2017. The political process has stalled as all parties to the conflict continue to believe that they can achieve a military victory that would negate the necessity for political compromise.

23. Since the attack on the convoy of the Special Envoy of the Secretary-General for Yemen, Ismail Ould Cheikh Ahmed, in Sana'a on 25 May 2017,[18] he has been prevented from visiting Sana'a.[19] The Houthis have effectively banned the Special Envoy by refusing to accept any subsequent proposals from him.

24. The Houthis believe that they only have to survive and outlast the Saudi Arabia-led coalition in order to "win" the war, which limits their willingness to negotiate. The Saudi Arabia-led coalition, on the other hand, is faced with four broad choices: (a) unilaterally cease hostilities and leave the Houthis in control; (b) mount a massive ground invasion with no guarantee of success and certain casualties; (c) continue to carry out airstrikes and hope for different results, although after 33 months of air strikes the number of credible targets remaining is considered to be very low; or (d) attempt to resurrect Saleh's network as part of an anti-Houthi coalition. Although the battle lines may shift slightly in the coming months, as a result of the collapse of the Houthi-Saleh alliance, the Panel does not believe that any side is in a position to secure an outright military victory.

25. Another complicating factor is that the political decision makers on all sides are not bearing the brunt of the war, the Yemeni civilians are. The Houthi leadership is largely insulated from attacks, and from the shortages of food, fuel, medicine and water. The Saudi Arabia-led coalition relies on relatively low-risk airstrikes and a limited number of ground troops, which reduces the domestic political fallout.

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[16] See S/2017/81, para. 20.

[17] Houthis control Amran, Dhamar, Hajjah, Ibb, Mahwit, Raymah, Sa'dah and Sana'a. Contested governorates are Bayda', Hudaydah, Jawf, Ma'rib and Ta'izz. The list of governors can be found in annex 8.

[18] See https://www.reuters.com/article/us-yemen-security-un/u-n-wants-investigation-into-attack-on-yemen-envoys-convoy-idUSKBN18L18I.

[19] See https://www.reuters.com/article/us-yemen-security-un/houthis-ban-u-n-special-envoy-from-yemen-for-alleged-bias-idUSKBN18W2D0.

Collapse of the Houthi-Saleh alliance and death of Saleh

26. Tensions between the Houthis and Ali Abdullah Saleh (YEi.003) spiked in August 2017,[20] and again on 29 November 2017 when armed Houthi supporters clashed with Saleh supporters in and around the al-Saleh mosque in Sana'a. The latter incident sparked a five-day street war that led to the collapse of the Houthi-Saleh alliance and the death of Ali Abdullah Saleh.

27. Although Ali Abdullah Saleh initially appeared to have the upper hand in Sana'a, the Houthis quickly retook several military installations and sent reinforcements into the city, while isolating Saleh from military and tribal allies. Abdullah Yahya al-Hakim (YEi.002) and Mohammed Ali al-Houthi, the head of the Houthi's revolutionary committee, were instrumental in reaching out to tribes around Sana'a and convincing them not to support Ali Abdullah Saleh. The Panel believes that Mohammed Ali al-Houthi meets the designation criteria owing to his involvement in leading these events, which constitute a threat to the peace and security of Yemen.

28. On 2 December 2017 Ali Abdullah Saleh reached out to the Saudi Arabia-led coalition, promising a "new page" in relations and calling on his supporters to take up arms and fight.[21] But without the help of tribal sheikhs and key generals, who were either unwilling or unable to help, Saleh[22] and his soldiers in Sana'a were overrun and killed early on the morning of 4 December 2017.

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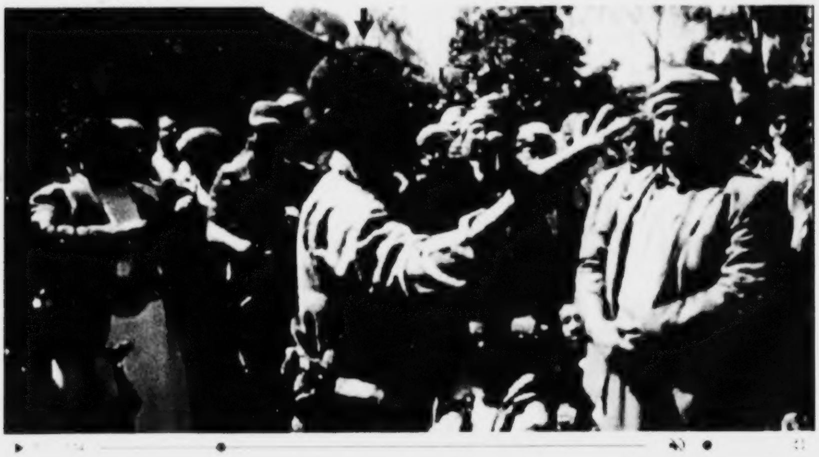
[20] In August 2017, Abdulmalik al-Houthi and Ali Abdullah Saleh criticized one another in competing speeches ahead of the public celebration of the thirty-fifth anniversary of the General People's Congress. On 26 August 2017, a prominent Saleh supporter, Khaled Ahmed Zayd al-Radhi, the head of foreign relations for the General People's Congress and head of the Vulcan Group, was killed in a clash with the Houthis in Sana'a. On 12 September 2017 Abdulmalik al-Houthi and Ali Abdullah Saleh spoke directly in an attempt to ease the tensions. For an account of events escalating tensions within the alliance see annex 9.

[21] The Panel notes that during this time the Saudi Arabia-led coalition deployed air strikes against exclusively Houthi targets close to Saleh's armed supporters. Should this have been an attempt to protect Ali Abdullah Saleh then it would be a non-compliance with para. 14 of resolution 2216 (2015) as it would equate to military support to a listed individual. The Panel continues to investigate this matter.

[22] Based on the imagery of Saleh's body, the Panel believes he was executed at close range with a bullet to the left side of the back of the head. The Houthis transported Saleh's body in an SUV outside of Sana'a, where they staged a mock ambush to make it appear as though he was killed while fleeing for his life. The Panel believes this is one of the many moves that the Houthis took in December 2017 as part of a strategy to discredit Ali Abdullah Saleh.

Figure I

Mohammed Ali al-Houthi and Abdullah Yahya Al Hakim in Sana'a (December 2017)[a]



[a] Video from confidential sources. Mohammed Ali al-Houthi (left) and Abdullah Yahya Al Hakim (right).

29. There were also widespread reports that Ali Abdullah Saleh's nephew and senior military commander Tariq Muhammad Abdullah Saleh[23] was killed in the fighting. The Panel is working to independently confirm this. The Panel has confirmed that Arif al-Zuka, the Secretary-General of the General People's Congress and the top political aide of Ali Abdullah Saleh, was also killed. The Houthis also managed to capture several of Ali Abdullah Saleh's relatives.[24] The Panel believes that some of those individuals were wounded in the fighting, and that the Houthis are holding them as leverage in the event that either Ahmed Ali Abdullah Saleh (YEi.005) or Khaled Ali Abdullah Saleh attempt to resurrect the Saleh network.

30. Over the course of the next several days, the Houthis attempted to crush or co-opt the remnants of Saleh's network while simultaneously consolidating their own rule over Sana'a and much of northern Yemen. They executed key military commanders, who were part of Saleh's Sanhan tribe;[25] arrested prominent members

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[23] Tareq Saleh was the commander of Saleh's Special Guards and de facto head of the Republican Guard.

[24] The Panel has determined that that two of Saleh's six sons, Salah and Midyan, were captured along with Saleh's nephew, Muhammad Muhammad Abdullah Saleh, a key military figure and General Supervisor of the Vulcan Group (see http://www.vulcanyemen.com/owners.htm). The Panel also believes that the Houthis captured Tariq Saleh's eldest son, Afash, and Yahya Muhammad Abdullah Saleh's eldest son, Kenan. Lists of Saleh's sons and nephews are contained in confidential annexes 10 and 11. For the names of Saleh's daughters and sons-in-law, see confidential annex 12.

[25] On 5 December 2017 the Houthis executed major generals Mahdi Maqawlah, Abdullah al-Dhabaan (commander, 35th armoured brigade and former axis commander in Ta'izz) and Murad al-Awbali (commander 62nd mechanized brigade).

of the General People's Congress,[26] and intimidated others;[27] forcibly dispersed protests;[28] kidnapped the children of prominent families tied to Saleh;[29] destroyed the homes of Saleh supporters; and instigated a media blackout by blocking social media sites and much of the Internet. The Houthis also announced that they were changing the name of the al-Saleh mosque, and claimed that they found large quantities of gold, silver and cash in Saleh's house, which they were depositing in the Central Bank.[30] The Panel anticipates more crackdowns as the Houthis attempt to solidify their grip on power.

C. Security and regional dynamics

1. Regional dynamics

31. Qatar was expelled from the Saudi Arabia-led coalition on 5 June 2017, and the withdrawal of its forces began on 7 June 2017. This has had little impact from a military perspective. However, tensions between Qatar and members of the Saudi Arabia-led coalition have spilled over into Yemen, as coalition members and their proxies have targeted the al-Islah party, which they see as an ally of Qatar.[31]

2. Areas under the control of forces allied to the legitimate Government of Yemen

32. Although the armed forces of the legitimate Government remain present throughout the eight southern provinces, (Abyan, Aden, Dali', Hadramawt, Lahij, Mahrah, Shabwah and Socotra), a number of other actors such as Al-Qaida in the Arabian Peninsula (AQAP), ISIL, tribal opponents, the recently formed Southern Transitional Council and proxy forces of the Saudi Arabia-led coalition challenge the Government's ability to govern and impose its authority. Armed forces loyal to President Hadi are also operating in Ta'izz and Ma'rib.

33. Forces of the United Arab Emirates in southern Yemen view the Security Belt Forces (for the leadership and structure of the Security Belt Forces, see annex 6) as key pillars of their security strategy for Yemen. This approach continues to marginalize Government institutions such as the National Security Bureau and the Political Security Organization, further undermining and reducing the legitimate Government's intelligence and security capabilities.

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[26] List of members of the General People's Congress detained by the Houthis is contained in annex 13.

[27] In the aftermath of Saleh's death, the Houthi television channel, al-Masirah, broadcast footage of a meeting of the General People's Congress in Amran, at which individuals pledged their allegiance to the state and distanced themselves from Ali Abdullah Saleh. The Panel believes that this is the Houthi way of illustrating they will only go after Saleh's supporters, not the General People's Congress as a whole (http://www.almasirah.net/gallery/preview.php?file_id=10509#.WihdwAa5gRg.twitter).

[28] On 6 December 2017 the Houthis fired shots to disperse a protest by women demanding that the Houthis surrender the body of Ali Abdullah Saleh for burial.

[29] Armed men affiliated with the Houthis entered the house of Ruqayah al-Hijri, the sister of one of Saleh's wives (see confidential annex 14), and seized at least one of her children (http://www.almasdaronline.com/article/95978).

[30] The Houthi imagery used to support this claim are stock images that originate outside Yemen (see http://www.saba.ye/ar/news481198.htm).

[31] On 11 October 2017, security forces in Aden, acting on the orders of Shallal Ali Shaye, the Head of Security, stormed an al-Islah party building, arresting 10 individuals (see https://www.reuters.com/article/us-yemen-security/yemen-islamist-party-members-arrested-ratcheting-up-tensions-idUSKBN1CG1J1).

3. Involvement of the Saudi Arabia-led coalition forces

34. Saudi Arabia-led coalition forces continue to provide financial, political, military and logistic support to the Yemeni Armed Forces and a number of proxy armed groups. The main battlefronts for the forces of Saudi Arabia are Ma'rib and Midi, while those of the United Arab Emirates operate largely in Aden, Abyan, Hadramawt, Lahij, Mahrah, Mukha and Shabwah.

35. On 7 December 2017, southern resistance forces, with support from the Saudi Arabia-led coalition under Brigadier General Abdul Salam al-Shehi, took control of the Abu Musa al-Ashar camp outside Khawkhah and continued to push northward towards Hudaydah city.[32] As part of this security operation, southern elements under the command of Haitham Qassem Taher launched a military offensive in the Hudaydah governorate, meeting minimal resistance from Houthi elements north of Mukha city on the coast of the Red Sea.

36. The United Arab Emirates continues to expand its support to proxy forces in the south, primarily the Security Belt Forces in Abyan, Aden and Lahij, and to the Hadrami and Shabwani Elite Forces (see paras. 55 to 58 below). The United Arab Emirates maintains military training facilities in Shamussah and Rayyan near Mukalla, where a number of foreign military advisers and trainers are based in support of the Elite Forces.[33]

D. The "Southern question"

37. The Panel assesses that, given the length of the war, lack of military progress and the divisions that have emerged, secession into a separate south Yemen is now a real possibility. Furthermore, the ability of the legitimate Government to administer and govern the eight governorates it claims to control has been significantly eroded during 2017. The situation in Aden and Mahrah provide solid examples of the background to this risk.

1. Aden

38. Security within the governorate has deteriorated significantly over the course of 2017. ISIL has carried out several large-scale suicide attacks and has claimed responsibility for a number of assassinations (see para. 74 below). There have also been several politically motivated assassinations that have not been claimed by either AQAP or ISIL. For example, on 18 October 2017, Fahd al-Yunisi, the imam of the Sahaba mosque in Aden, was assassinated by an, as yet, unidentified gunman.[34]

39. The legitimate Government has also repeatedly failed to pay the salaries of Government workers and appears incapable of providing basic services to the city, including adequate electricity. On 16 November 2017, Abd al-Aziz al-Muflahi, the Governor of Aden, submitted his resignation, citing the Government's inability to pay salaries.[35] The Panel has seen billboards throughout Aden and other cities in the south of the country demonizing Prime Minister bin Daghir and the legitimate Government for their inability to provide for Yemenis.[36] There appear to be no efforts by local authorities to counter this campaign against the Government.

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[32] See http://adengad.net/news/291513/.

[33] Evidence from Panel visits to Yemen and interviews with confidential sources.

[34] See http://adengad.net/news/283179/. The Panel has identified other, politically motivated, assassinations claimed by neither AQAP or ISIL in Yemen.

[35] Appointed in April 2017, after President Hadi removed Aydarus al-Zubaydi. Al-Muflahi had also clashed with Prime Minister bin Daghir, claiming that the latter often acted as the Governor.

[36] See https://twitter.com/goldensla/status/926022844307378178.

2. Mahrah

40. There are growing tensions in the eastern governorate of Mahrah over the deployment of new military forces into the region to combat smuggling.[37] On 15 November 2017, Brigadier General Abdullah Mansour Ali and the 123rd Infantry Brigade replaced the 137th Mechanized Brigade in Mahrah. Nearly two weeks later, on 27 November 2017, President Hadi appointed Rajih Said Bakrit as the new Governor of Mahrah, replacing Mohammed Abdullah Kudah.[38] The former Governor remains in Mahrah, protected by armed elements of his tribe and other officials with shared interests.[39] His tribe, the Al Kudah, controls access to coastal territory east of Ghaydah port, in Jarub and Zaghar, towards the border with Oman.

E. Contested areas and potential fragmentation

41. The events in Bayda' and Ta'izz also provide further indication of the very real risks of the fragmentation of Yemen.

1. Bayda'

42. Located at the crossroads of the former north-south border, Bayda' occupies a highly valuable and strategic location. Of particular importance is the area of Bayhan, in northern Bayda', which is a primary smuggling route into Sana'a from the south, with links to Ma'rib and the Arabian Sea coast. The Houthi presence is centred on the city of Rada', while AQAP appears to be active near Dhahab and the surrounding areas in Suma and south throughout Zahir. ISIL operates from a small enclave within Qayfah, while resistance elements supported by the Saudi Arabia-led coalition are confined to the lower southwest in Humaiqan, Bayda' city and near Mukayras (see map in annex 17).[40]

2. Ta'izz

43. As described in paragraphs 28 to 33 of the Panel's confidential midterm update report, the city of Ta'izz remains a flashpoint in the conflict and a humanitarian disaster. Ta'izz has been the focus of the most sustained fighting over the past year. Houthi forces continue to besiege the city. Tension between local resistance elements, Salafi militias and Yemeni Army Forces spiked in October 2017, following the decision by the United States, Saudi Arabia and the Gulf Cooperation Council to sanction Abu al-Abbas,[41] a key Salafi leader. Like the Houthis in Sana'a, Abu al-Abbas continues to hold territory inside the city and exercises rights and responsibilities exclusive to the legitimate Government.[42] Prior to 25 October 2017, Abu al-Abbas had received significant support from the United Arab Emirates. The Panel is investigating whether this support continues.

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[37] Attempts to create a Mahrahi Elite Force, similar to the Hadramawt and Shabwah Elite Forces, appear to have been tabled for the moment.

[38] See http://adengad.net/news/289730/. Kudah was named a Minister of State and a member of President Hadi's Council of Ministers.

[39] Principal Mahrah Governorate officials are listed in annex 15. Known AQAP affiliates operating in the governorate are listed in annex 16.

[40] These resistance elements are associated with the former Governor of Bayda', Nayif al-Qaysi (QDi.402), and Abd al-Wahhab al-Humayqani (see annexes 5 and 18).

[41] Abu al-Abbas was sanctioned by the United States and by the Saudi Arabia-led coalition on 25 October 2017. Known associates are listed in annex 19.

[42] Prior to being sanctioned, Vice-President Ali Muhsin al-Ahmar had attempted to incorporate Abu al-Abbas and his militia into the Yemeni Armed Forces. That attempt failed.

44. The various Salafi militias[43] that have emerged from the nearly three years of war are not only competing, and at times clashing, with Government forces, but also with each other. This competition has only increased in the wake of the sanctions against Abu al-Abbas. The militias view Ta'izz as a zero-sum game and a weakened Abu al-Abbas has meant that several smaller militias are fighting for more territory. In Ta'izz, the more urban territory a group holds, the more outside support they attract.

45. Sanctions on Abu al-Abbas may also have prompted Houthi-Saleh forces to step up their attacks on resistance forces inside the city of Ta'izz and in the surrounding areas. A number of airstrikes by the Saudi Arabia-led coalition on Ta'izz, believed to have been targeting Houthi-Saleh forces, have resulted in civilian casualties. One airstrike hit elements from the 22nd Armoured Brigade, loyal to President Hadi, in the al-Aroos area of Saber mountain.[44] Such incidents have disrupted relations between local forces and allies of the Saudi Arabia-led coalition, giving Houthi-Saleh forces the opportunity to mobilize their forces and exploit the situation to gain new ground along various fronts in Ta'izz.

46. Both AQAP and ISIL remain active in Ta'izz, although both groups have experienced defections and fragmentation (see para. 66 below).

F. Maritime security

47. During 2017 there was an increase in the number and type of maritime security incidents affecting the safety and security of the strategic sea lines of communication and approaches to the Red Sea ports. This jeopardizes the delivery of humanitarian assistance to Yemen by sea, in violation of paragraph 19 of resolution 2216 (2015). Figure II illustrates the number and the distribution of maritime security incidents within the region during 2017, including:

(a) Attacks using missiles or explosives against Saudi Arabia-led coalition naval vessels and the Red Sea ports, including the emergence of new threats from: (i) remote controlled skiffs containing explosives (water-borne improvised explosive devices); and (ii) the use of a land-based anti-tank guided missiles;

(b) An attempted attack against the Marshall Islands-flagged tanker MV *Muskie* very similar in modus operandi to that against the Spanish-flagged MV *Galicia Spirit*;[45]

(c) An armed helicopter attack on 16 March 2017 by an as yet unidentified perpetrator against a civilian vessel containing migrants that resulted in at least 42 fatalities;

(d) The use of naval and improvised sea mines (see paras. 110–114 below).

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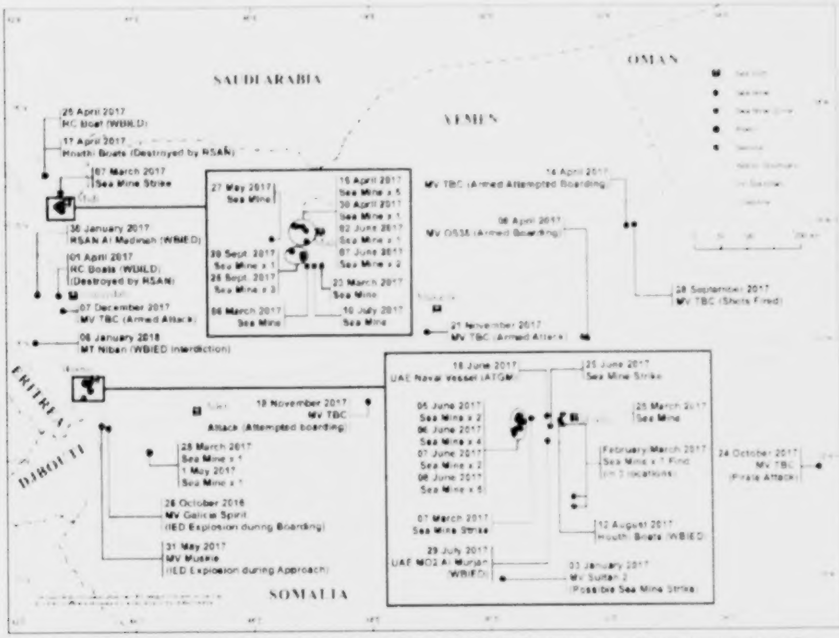
[43] Other militias in Ta'izz, include the al-Sa'lik Brigade and those under the control of Hashem al-Sanani, Saud Mayub, Hareth al-Izzy and Abu Saduq.

[44] See http://www.middleeasteye.net/news/saudi-forces-accused-deliberately-targeting-allies-yemens-Ta'izz-179331116.

[45] MV *Galicia Spirit* attack reported in S/2017/81, paras. 37 and 38 and annex 14. MV *Muskie* attack reported in the Panels' 2017 confidential midterm update.

Figure II
Maritime security incidents: 2017


SAUDI ARABIA
YEMEN
OMAN
ERITREA
DJIBOUTI
SOMALIA
25 April 2017
RC Boat (WBILD)
17 April 2017
Houthi Boats (Destroyed by RSAN)
07 March 2017
Sea Mine Strike
30 January 2017
RSAN Al Madinah (WBIED)
01 April 2017
RC Boats (WBILD)
(Destroyed by RSAN)
07 December 2017
MV TBC (Armed Attack)
08 January 2018
MT Niban (WBIED interdiction)
27 May 2017
Sea Mine
30 Sept. 2017
Sea Mine x 1
26 Sept. 2017
Sea Mine x 3
06 March 2017
Sea Mine
16 April 2017
Sea Mine x 5
30 April 2017
Sea Mine x 1
02 June 2017
Sea Mine x 1
07 June 2017
Sea Mine x 2
23 March 2017
Sea Mine
10 July 2017
Sea Mine
14 April 2017
MV TBC (Armed Attempted Boarding)
08 April 2017
MV OS35 (Armed Boarding)
28 September 2017
MV TBC (Shots Fired)
21 November 2017
MV TBC (Armed Attack)
19 November 2017
MV TBC
Attack (Attempted boarding)
28 March 2017
Sea Mine x 1
1 May 2017
Sea Mine x 1
26 October 2016
MV Galicia Spirit
(IED Explosion during Boarding)
31 May 2017
MV Muskie
(IED Explosion during Approach)
18 June 2017
UAE Naval vessel (ATGM)
25 June 2017
Sea Mine Strike
05 June 2017
Sea Mine x 2
06 June 2017
Sea Mine x 4
07 June 2017
Sea Mine x 2
08 June 2017
Sea Mine x 5
25 March 2017
Sea Mine
February/March 2017
Sea Mine x 7 Find
(in 3 locations)
07 March 2017
Sea Mine Strike
12 August 2017
Houthi Boats (WBIED)
29 July 2017
UAE MO2 Al Murjan
(WBIED)
03 January 2017
MV Sultan 2
(Possible Sea Mine Strike)
24 October 2017
MV TBC
(Pirate Attack)

48. While the tactics contained in the industry publication *Best Management Practices for Protection against Somalia Based Piracy* (BMP 4)[46] will protect vessels, to some degree, against attempted boarding by small groups of armed militants or pirates, they will not provide protection against attacks involving waterborne improvised explosive devices, anti-ship missiles,[47] land based anti-tank guided missiles or sea mines.

III. Armed groups and military units

49. Pursuant to paragraph 17 of resolution 2140 (2014), and as reiterated by the Security Council in its resolutions 2216 (2015), 2266 (2016) and 2342 (2017), the Panel continues to investigate individuals and entities associated with armed groups who may be engaging in or providing support for acts that threaten the peace, security or stability of Yemen.

A. Yemeni Government and Saudi Arabia-led coalition regular forces

50. Troops under the ostensible control of President Hadi routinely display the flag of an independent south Yemen. At times, they have referred to the former Governor of Aden and current Head of the Southern Transitional Council, Aydarus al-Zubaydi,

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[46] See www.mschoa.org/docs/public-documents/bmp4-low-res_sept_5_2011.pdf?sfvrsn=0. Although addressing Somalia-based piracy, the practices also apply to transit in the Red Sea and to protection against Yemeni-based pirates. The title is a legacy from the initial publication *Best Management Practices for Protection against Somalia Based Piracy* (BMP 1).

[47] See S/2017/81, paras. 35 and 36, and annex 13.

as their "president".[48] It is the assessment of the Panel that President Hadi no longer has effective command and control over the military and security forces operating on behalf of the legitimate Government of Yemen.[49] One way President Hadi has attempted to arrest the erosion of his power is through the deployment of new military units, particularly the Ta'izz-based 5th Presidential Protection Brigade, which is reminiscent of the Republican Guard Brigades that former President Ali Abdullah Saleh used to safeguard his rule.[50]

51. Regular military units, such as the 103rd Infantry Brigade in Abyan,[51] which are wholly or mostly dependent on the legitimate Yemeni Government for salaries and equipment, are underequipped, often paid late or paid only in part. The problem, for this particular Brigade, is further compounded by the fact that their camp in Abyan is on the frontlines and a frequent target of AQAP attacks.[52] In September, frustrated soldiers of the 103rd Infantry Brigade blocked a major road in Abyan to protest the fact that they had received only a partial salary.

52. The situation is slightly different in Ma'rib, where Vice-President Ali Muhsin al-Ahmar[53] has spent significant periods of time visiting the battlefronts in Sirwah and Nihm. The troops in that area are better paid and better equipped, which is a direct result of Vice President al-Ahmar's support and patronage.

53. The most effective Yemeni security units, however, are the proxy forces formed and supported by member States of the Saudi-Arabia led coalition, which, in turn, act as proxies for those member States in Yemen.

B. Saudi Arabia-led coalition proxy forces

54. The Panel believes that proxy forces funded and armed by member States of the Saudi Arabia-led coalition present a threat to the peace, security or stability of Yemen. Unless they are brought back under direct Yemeni command and control, with all salaries and equipment distributed through Yemeni Government channels, these forces will do more to further the fracturing of Yemen than they will to hold the State together.

1. Security Belt Forces

55. The Security Belt Forces, which were formed in March 2016,[54] technically fall under the Ministry of the Interior. However, in practice, they are trained, supplied and paid for by the United Arab Emirates and operate outside the Yemeni military

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[48] On 25 October 2017, the official twitter account of the Hadrami Elite Forces referred to Aydarus al-Zubaydi as *al-rais*, or "president" (see https://twitter.com/NokhbaHadramout/status/923209607174152192).

[49] For a list of Yemen's military districts and their commanders, see annex 20.

[50] Formed on 17 November 2017. Commanded by Brigadier General Adnan Ruzaiq, a Salafi fighter from the Al Qamush tribe in Shabwah, who arrived in Ta'izz in 2015 with 160 fighters. Ruzaiq has previously come into conflict with Security Belt Forces, who attacked his house in Aden in January 2017, in what is another example of the fragmentation of the armed forces of the legitimate Government. For a list of Presidential Protection Brigades see annex 21.

[51] The Brigade was moved from its base in Aden to Abyan in late July 2017.

[52] On 8 August 2017, an AQAP suicide bomber, Arif Adil Hassan Habib, attacked their camp, killing 12 soldiers and wounding 28.

[53] Ali Muhsin al-Ahmar, a relative of former president Ali Abdullah Saleh, who broke with him in 2011, is one of the most powerful military commanders in recent Yemeni history, and still has a strong network of support within Yemen's military.

[54] As early as September 2015 then Governor of Aden, Nayif Bakri, was talking about forces of Saudi Arabia and the United Arab Emirates forming a "security belt" in the south (see https://sputniknews.com/middleeast/201509051026642155/).

command-and-control structure. Initially numbering around 10,000 soldiers, the Security Belt Forces have grown to more than 15,000 troops and are active in the governorates of Aden, Abyan and Lahij.[55]

56. At times, Security Belt Forces have clashed with Yemeni military units loyal to President Hadi,[56] and have also been implicated in a number of violations of international humanitarian law and international human rights law (see para. 166 below).[57] Security Belt Forces have also been among the most active in combatting AQAP and ISIL in Yemen, particularly since August 2017 (see para. 38 above).

2. "Elite Forces"

57. In early 2016, the United Arab Emirates formed and funded the Hadrami Elite Forces ahead of a planned assault on Mukalla.[58] Like the Security Belt Forces, the Hadrami Elite Forces are better paid than their regular Yemeni army counterparts and operate outside the Yemeni military command-and-control structure.

58. In late 2016, the United Arab Emirates also formed and funded the Shabwani Elite Forces, using the same model. Like the Hadrami Elite Forces, the Shabwani units are made up of local fighters who operate outside the Yemeni military command-and-control structure.[59] The Panel estimates the Shabwani Elite Forces currently number between 3,000 to 4,000 fighters.[60] Although these forces have been active in the fight against AQAP and ISIL in Yemen, the Panel finds them to be proxy forces that are undermining the authority of the legitimate Government of Yemen.

C. Houthi forces

59. Militarily, the Houthis are a tribal-based militia[61] grafted on to, and allied with, a professionally trained military from elements of the former Yemeni Armed Forces.[62] When the Houthis took control of Sana'a in late 2014 they needed the political and military experience provided by the network of Ali Abdullah Saleh (see paras. 43-45 below). By late 2017 this had ceased to be the case. Over the past year, the Houthis have gradually eased out Saleh loyalists from key positions and replaced them with their own supporters. This process culminated in a five-day street war in Sana'a in late November and early December 2017 that ended with the death of Ali Abdullah Saleh (see para. 29 above).

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[55] For an overview of the command structure see annex 6.

[56] The Panel has identified several clashes between the two sides, for example on 16 September 2017, Hadi's Presidential Protection Force refused to hand over a military checkpoint at Arish on the Aden-Abyan road to the United Arab Emirates-backed security forces (see https://www.reuters.com/article/us-yemen-security-clash/gunfight-erupts-in-southern-yemen-one-civilian-killed-witnesses-idUSKCN1BR0M4).

[57] Elements affiliated with Security Belt Forces have also been implicated in a number of extrajudicial detentions of civilians in Aden (see annex 22).

[58] The initial impetus for the creation of the Hadrami Elite Forces was to create a local face for the efforts to retake the city of Mukalla from AQAP in April 2016 (see S/2017/81, para. 51).

[59] The Panel has identified clashes in October 2017 between the Shabwani Elite Forces and the 23rd Mechanized Brigade, loyal to Vice-President Ali Muhsin al-Ahmar.

[60] The Shabwani Elite Forces command structure is set out in annex 23.

[61] Key security and military figures for the Houthis are listed in annex 24. Key Houthi political figures are listed in annex 25.

[62] The Houthi militia has been fighting for much of the past 13 years, first in a series of six successive wars against then President Saleh's Government from 2004 to 2010, and since March 2015 against the Saudi Arabian-led coalition. After the Houthis took control of Sana'a in early 2015, Yemen's military fragmented, with several key officers joining the Houthis, others remaining loyal to former President Saleh and others siding with President Hadi.

60. Although there will likely be defections from soldiers still loyal to Ali Abdullah Saleh's network, the Panel does not believe these defections will take place in significant enough numbers, or be carried out in an organized enough fashion, to threaten the Houthis' hold on Sana'a and much of the north, at least in the near term. In the immediate aftermath of the death of Ali Abdullah Saleh the Houthis moved quickly to crush or co-opt what remained of his network, while consolidating their rule through a series of brutal crackdowns, arrests and executions (see para. 29 above).

61. On 4 November 2017, the Houthis launched a short-range ballistic missile attack on Riyadh (see para. 82 below). Saudi Arabia responded two days later by, among other things, issuing a "wanted" list of 40 Houthis, with significant rewards for information leading to their capture or death.[63]

62. With the collapse of the Houthi-Saleh alliance the Houthis may look for international partners to offset the loss of domestic allies. Indeed, the Panel considers that further "internationalization" of the war is likely. The more isolated the Houthis become, the more they will look to make common cause with countries seeking to combat the member States of the Saudi Arabia-led coalition. The Panel is aware of media reports that the Islamic Republic of Iran has provided "advisers" to the Houthis and it is investigating this matter.[64]

63. Although the Houthis continue to recruit new fighters, including children (see paras. 185 and 186 below), the movement is at heart a family organization.[65] This means that the most trusted commanders are those related to the leader, Abdulmalik al-Houthi (YEi.004).[66] This explains why, in April 2017, when it looked as though the Saudi Arabian-led coalition was planning an offensive against Hudaydah, the Houthis named Yusif Ahsan Isma'il al-Madani[67] as the commander of the 5th military district in Hudaydah.[68] The Houthis made a similar move later in 2017, transferring Abd al-Khaliq al-Houthi (YEi.001) from the Midi front to the Nihm front near Sana'a, to better protect the capital.

D. The network of Ali Abdullah Saleh

64. The Panel does not believe that Ahmed Ali Abdullah Saleh, Khaled Ali Abdullah Saleh, or any other single individual is capable of reconstituting Ali Abdullah Saleh's network. Soldiers from the republican guards and special guards are now faced with a choice of either allying themselves with the legitimate Government forces and the Saudi Arabia-led coalition, whom they have been fighting for most of the past three years, or joining the Houthis, who executed Ali Abdullah Saleh and senior military

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[63] The Government of the former president Ali Abdullah Saleh issued a similar list of 55 "wanted" Houthis in 2009. The list issued by Saudi Arabia is in annex 26.

[64] In a response to a letter from the Panel dated 28 November 2017, the Islamic Republic of Iran replied, on 6 December 2017, that "Iran has no military presence in Yemen, but has a diplomatic representation in Sana'a, providing 'advisory assistance' to support efforts at finding a political solution to the current crisis".

[65] The first leader was Husayn Badr al-Din al-Houthi. When he was killed in 2004, the leadership transferred to his father, Badr al-Din al-Houthi, and then to his half-brother and the current leader, Abdulmalik al-Houthi. The Houthi family tree is provided in annex 27.

[66] This is also true at the political level, for example, Saleh al-Samad, head of the supreme political council, is close to Abdulmalik al-Houthi, and studied under both Husayn Badr al-Din al-Huthi and his father, Badr al-Din al-Houthi.

[67] Al-Madani is related to the Houthi family by marriage. He was one of Husayn Badr al-Din al-Houthi's most trusted commanders in the initial Houthi war of 2004 and later married one of Husayn's daughters.

[68] A list of Houthi military district commanders is provided in annex 28.

commanders in December 2017. Any attempt at full-scale resistance to the Houthis is complicated by the fashion in which small groupings of republican guard soldiers have been distributed to various battlefronts. This distribution of forces meant that Saleh was unable to count on large numbers of loyal soldiers at short notice when he needed them on 3 December 2017.

65. Given the extrajudicial executions and mass detentions carried out by the Houthis after the death of Ali Abdullah Saleh (see para. 29 above) it is likely that there will be a cycle of revenge killings, which may last for years. For example, in 2004, Saleh's soldiers killed Husayn Badr al-Din al-Houthi, the first leader of the Houthi movement. Thirteen years later, when Houthi forces killed Ali Abdullah Saleh, their fighters claimed that this avenged Husayn's death.[69] In a televised appearance after Saleh's death, Abdulmalik al-Houthi was wearing Husayn's dagger, a clear sign that he considered his brother's death avenged. Saleh's family and supporters will likely attempt to seek their own revenge against the Houthis. The key difference, however, is that Husayn Badr al-Din al-Houthi led a movement, while Ali Abdullah Saleh headed a network.

E. Al-Qaida in the Arabian Peninsula

66. Throughout 2017 AQAP averaged slightly more than one attack every two days.[70] These attacks fell into five broad categories: (a) suicide attacks;[71] (b) mortar attacks; (c) assassinations;[72] (d) improvised explosive device attacks; and (e) small-scale assaults. The attacks have taken place mostly in the following three governorates: Bayda', Abyan, and Hadramawt.[73]

67. AQAP is fighting a multi-front war in Yemen against three enemies: (a) the Houthis; (b) the United States and the West; and (c) the Government of Yemen and Saudi Arabian-led coalition forces,[74] with the ultimate goal of acquiring and governing territory.[75] Internationally, the group continues to have two goals:

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[69] These chants can be heard on the video of Houthi fighters placing Saleh's body in the back of a pick-up truck.

[70] There have been more than 200 attacks claimed during 2017 by AQAP. This is roughly similar to the number of attacks claimed by AQAP in 2016.

[71] A list of suicide (person-borne improvised explosive device/suicide vehicle improvised suicide device) attacks by AQAP is provided in annex 29.

[72] The majority of assassination attempts by AQAP used improvised explosive devices. The Panel differentiates between general improvised explosive device attacks and assassinations, for example, on 3 October 2017 AQAP placed an improvised explosive device under the vehicle of Arif Said Abdullah al-Muhammadi, a criminal investigator, in Mukalla. Al-Muhammadi survived the attack.

[73] There has also been AQAP activity and attacks in Shabwah, Ma'rib, Lahij and Aden, but the vast majority of attacks have taken place in the three governorates listed. More than half of all attacks claimed by AQAP in 2017 took place in Bayda'.

[74] The clearest articulation of this approach came in March 2017, during an interview with the AQAP leader Qasim al-Rimi (QDi.282), which was released on 29 April 2017 (see https://azelin.files.wordpress.com/2017/05/al-qacc84-idah-in-the-arabian-peninsula-22interview-with-qacc84sim-al-raymicc8422-en.pdf).

[75] AQAP has held and governed territory in Yemen, from 2011 to 2012 and again in 2015 and 2016; both times it alienated the local population and chose to withdraw instead of remaining behind to fight.

launching attacks against Western targets from its base in Yemen; and inspiring or inciting individuals living in the West to carry out terrorist attacks.[76]

68. Although the Panel assesses that AQAP is still quite capable of launching and inspiring attacks against international targets,[77] it also believes that AQAP is currently more vulnerable than it has been in years. The Panel bases its assessment on the following four factors: (a) a dramatic increase in air and drone strikes by the United States; (b) a sustained ground campaign by Yemeni and international forces; (c) the arrests of several mid and low-level AQAP figures; and (d) internal dissension among members of the organization.[78]

69. In 2017, the United States increased the number of air and drone strikes in Yemen, which rose from 30 in 2016 to well over 120 in 2017.[79] The United States has also declared three governorates in Yemen to be "areas of active hostilities", a designation which authorizes target approval to be taken at a lower level.[80]

70. In August 2017, Yemeni troops backed by the United Arab Emirates, with advisers provided by the United Arab Emirates and the United States, launched a ground offensive against AQAP targets in Shabwah, Hadramawt and parts of Abyan.[81] This offensive expanded and continued through late 2017, resulting in the death or capture of several low and mid-level AQAP members.[82] Despite this, the core leadership of AQAP in Yemen remains intact.[83]

71. On 17 August 2017, AQAP released a statement warning the tribes of Abyan not to join the forces of the United Arab Emirates and its proxies, such as the Security Belt Forces. Five days later, on 22 August 2017, it released a similar statement in Shabwah,[84] again warning local tribes against joining the Shabwani Elite Forces. Both of these statements illustrate exactly how vulnerable AQAP is to tribal politics. AQAP recruits within the tribes, but more importantly it relies on tribal non-aggression to

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[76] On 7 May 2017, al-Rimi released a video message, entitled "A Lone Mujahid or an Army by Itself", encouraging individuals in the west to carry out attacks (see http://jihadology.net/2017/05/07/new-video-message-from-al-qaidah-in-the-arabian-peninsulas-shaykh-qasim-al-raymi-an-inspire-address-1-a-lone-mujahid-or-an-army-by-itself/). On 13 August 2017, AQAP released issue No. 17 of its English-language magazine *Inspire*, with the title "Train Derail Operations," the first issue of the magazine since November 2016.

[77] The Panel continues to investigate how AQAP is using the money it acquired when it had control of Mukalla in 2015 and early 2016.

[78] The Panel considers that many of these actions, particularly air and drone strikes, can have a detrimental impact in the long term, essentially killing one terrorist today but creating two more tomorrow, particularly if civilians are killed as collateral damage.

[79] The United States carried out "multiple ground operations and more than 120 strikes" in 2017, primarily against AQAP (see http://www.centcom.mil/MEDIA/PRESS-RELEASES/Press-Release-View/Article/1401383/update-on-recent-counterterrorism-strikes-in-yemen/).

[80] See https://www.nytimes.com/2017/03/12/us/politics/trump-loosen-counterterrorism-rules.html. Within "areas of active hostilities" United States forces are granted latitude to conduct strikes without explicit approval from the White House, which may explain, at least in part, the increase in the number of strikes.

[81] On 29 January 2017, the United States carried out a raid on a suspected AQAP target in Bayda', which resulted in the death of one American soldier. A second American soldier, Staff Sergeant Emil Rivera-Lopez, was killed in a helicopter crash "off the coast of Yemen" on 25 August 2017. The United States denied that Rivera-Lopez, who was part of a special operations support unit, was on a combat mission (see http://www.centcom.mil/MEDIA/PRESS-RELEASES/Press-Release-View/Article/1298631/dod-declares-dustwun-soldier-deceased/).

[82] The majority of those captured or killed have been mid and low-level AQAP figures, for example, on 31 October 2017, Security Belt Forces in Abyan made a surprise raid on an AQAP camp, capturing several individuals, including Muhammad al-'Awadh, a former bodyguard to Osama bin Laden (see http://www.almasdaronline.com/article/95157).

[83] A list of AQAP figures of interest to the Panel is provided in annex 30.

[84] A description of the AQAP relationship with the tribes in Yemen is contained in annex 31.

survive. If the tribes of Yemen were to turn against AQAP, the organization would not survive.

72. On 17 September 2017, AQAP released the eighth in a series of films, this one entitled "Repulsing the Aggression", which, for the first time, talked more about the role of the United Arab Emirates in Yemen than it did about the Houthis.[85] This media focus mirrored what AQAP was doing on the battlefield. Throughout the first half of 2017 more than two-thirds of AQAP attacks were directed against Houthi targets. Since August that trend has been reversed and AQAP now targets United Arab Emirates-backed troops more than it does the Houthis. More international pressure on AQAP came on 25 October 2017 when the newly formed Terrorist Financing Targeting Center[86] announced that it was sanctioning 11 Yemenis and two Yemeni organizations for ties to AQAP and ISIS.[87]

73. Partly as a result of this increased pressure and partly due to fighting on so many fronts at once, AQAP has also struggled to maintain a sense of organizational unity across the country. In a sign of internal fissures within the organization, AQAP released a statement in October 2017 saying that the Shariah court in Ta'izz was no longer operating under its instructions. Additionally, many of the group's media releases in recent months have focused on surviving in times of "adversity" and amidst "setbacks." However, AQAP's branch in Yemen has endured setbacks before, most notably in 2004 and 2005 when the group was virtually eradicated. It has managed to resurrect itself since that time. The Panel assesses that the longer the current conflict lasts in Yemen, the more recruits AQAP will attract.

F. Islamic State in Iraq and the Levant

74. Although much smaller than AQAP, the ISIL affiliate in Yemen is still capable of carrying out coordinated large-scale attacks.[88] Much like AQAP, ISIL is mostly active in Yemen's southern and central governorates, particularly Bayda', Abyan and Aden.[89] Indeed, some areas of Bayda', where AQAP was active in 2016 and early 2017, are now active battle fronts for ISIL, which has led some to believe that the two organizations are working together. The Panel has seen no evidence to suggest that the two groups are either working together or coordinating attacks. Instead, the evidence suggests that, at most, there is a tacit non-aggression pact between AQAP

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[85] See http://jihadology.net/2017/09/17/new-video-message-from-al-qaidah-in-the-arabian-peninsula-repulsion-of-aggression-8/.

[86] The Terrorist Financing Targeting Centre was established in May 2017 during a visit by the President of the United States, Donald Trump, to Saudi Arabia. The United States and Saudi Arabia are co-chairs, and the other member countries are: Bahrain, Kuwait, Oman, Qatar and the United Arab Emirates (see https://www.treasury.gov/press-center/press-releases/Pages/sm0092.aspx).

[87] The names of AQAP-affiliated individuals sanctioned by the member countries of the Terrorist Financing Targeting Centre are listed at: https://www.treasury.gov/press-center/press-releases/Pages/sm0187.aspx. Among the individuals sanctioned were the former Governor of Bayda', Nayif al-Qaysi (QDi.402), who was replaced on 23 July 2017. Also sanctioned was Abu al-Abbas, a Salafi leader in Ta'izz, who has previously received funding and support from the United Arab Emirates (see para. 45 above).

[88] On 5 November 2017, ISIL attacked a Criminal Investigation Department building in Aden: a suicide bomber rammed his vehicle into the gates, and along with three more individuals in suicide vests, rushed into the building. ISIL later claimed that the attack killed 69 individuals and it identified its four fighters as coming from the governorates of Hadramawt, Ibb, Ta'izz and Shabwah.

[89] In general, ISIL has carried out three types of attacks in Yemen: suicide attacks, close quarter assassinations and mortar attacks.

and ISIL based on their common enemies, the Houthis,[90] and the security forces tied to the legitimate Government and the Saudi Arabia-led coalition.

75. On 16 October 2017, the United States carried out its first direct strikes on ISIL in Yemen, hitting two camps in Bayda'.[91] Less than two weeks later, on 25 October, the United States, Saudi Arabia and the other countries partners in the Terrorist Financing Targeting Center sanctioned five individuals for their ties to ISIL in Yemen.[92] Since its initial strikes in mid-October 2017, the United States has carried out several more air and drone strikes against ISIL, all of which, to date, have taken place in Bayda'.[93]

76. In addition to the increased pressure from the air, ISIL has also suffered from the collapse of the group's so-called caliphate in Iraq and the Syrian Arab Republic. The Panel has yet to see any evidence of an influx of ISIL fighters into Yemen. Instead the opposite appears to be happening: low-level ISIL fighters appear to be defecting to AQAP.[94] The Panel continues to investigate whether this is related to a lack of outside funding coming into Yemen or to other factors.

IV. Arms and implementation of the targeted arms embargo

77. Pursuant to paragraphs 14 to 17 of resolution 2216 (2015), the Panel continues to focus on a range of monitoring and investigative activities in order to identify if there have been any violations of the targeted arms embargo involving the direct or indirect supply, sale or transfer to, or for the benefit of individuals and entities listed by the Committee and the Security Council.

78. There have been no changes to the options for supply chains for the delivery of weapons and ammunition to the individuals and entities listed by the Committee and the Security Council and those acting on their behalf or at their direction reported by the Panel on 31 January 2017.[95] There have been no reported maritime seizures of weapons and ammunition during 2017, and only very limited seizures of arms-related material have been identified on the main land supply route from the east of Yemen.[96]

79. The Panel has now identified strong indicators of the supply of arms-related material manufactured in, or emanating from, the Islamic Republic of Iran subsequent to the establishment of the targeted arms embargo on 14 April 2015, particularly in the area of short-range ballistic missile technology (see paras. 86 to 96 below) and unmanned aerial vehicles (paras. 98 to 105 below).

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[90] Like AQAP, ISIL has a hierarchy of enemies with the Shia Houthis at the top. In August 2017, the group released photographs of a Houthi commander it had crucified, identified as Abu Murtada al-Muhatawari.

[91] See http://www.centcom.mil/MEDIA/PRESS-RELEASES/Press-Release-View/Article/1344652/us-forces-conduct-strike-against-isis-training-camps-in-yemen/. The two camps were named for deceased ISIL leaders, Abu Bilal al-Harbi and Abu Muhammad al-Adnani. One week prior to the United States strikes, on 9 October 2015, ISIL had released training photographs from those camps.

[92] See https://www.treasury.gov/press-center/press-releases/Pages/sm0187.aspx. A list of ISIL figures of interest to the Panel is provided in annex 32.

[93] For example, the United States carried out three successive drone strikes on 10, 11, and 12 November 2017 in Bayda', which killed five individuals.

[94] However, the United States estimates that ISIL in Yemen has "doubled in size over the past year" (see http://www.centcom.mil/MEDIA/PRESS-RELEASES/Press-Release-View/Article/1401383/update-on-recent-counterterrorism-strikes-in-yemen/).

[95] See S/2017/81, para. 60 and table 1.

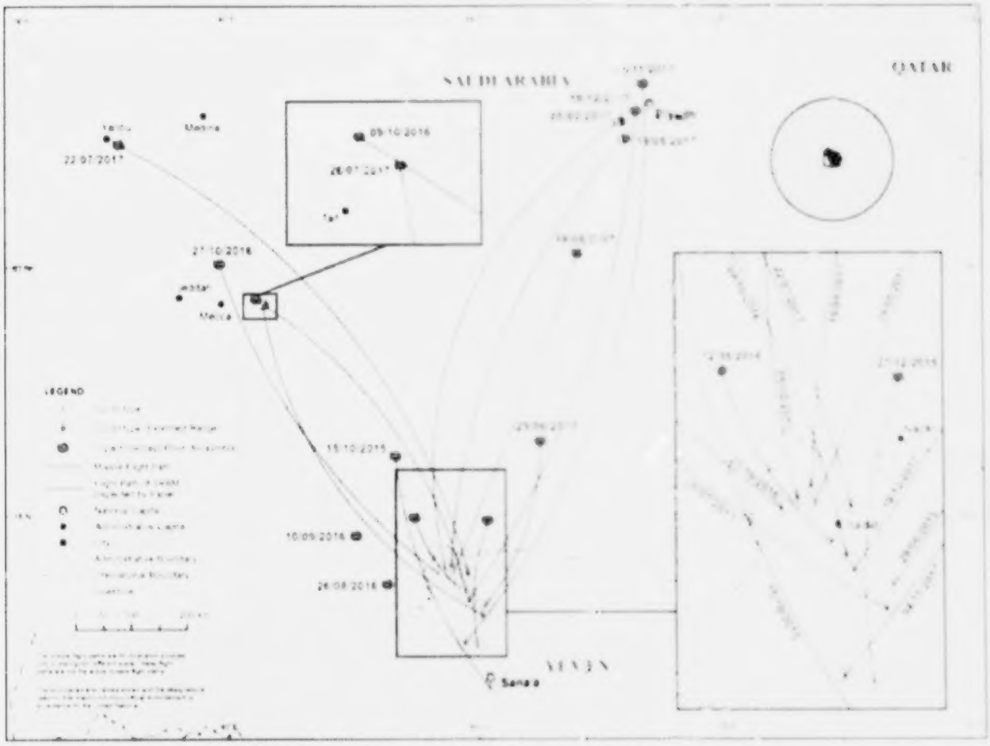
[96] See annex 33.

A. Houthi-Saleh "land missile campaign"

1. Overview

80. The strategic "land missile campaign" of the Houthi-Saleh alliance against Saudi Arabia continued during 2017, although at a reduced level of intensity (64 per cent of the level in 2016). The Houthi-Saleh alliance continues to demonstrate a mobile short-range ballistic missile or free flight rocket[97] capability to strike at Saudi Arabia. This has a strategic impact by: (a) demonstrating a defensive weakness on the part of Saudi Arabia to this threat, and compelling it to deploy disproportionately costly counter-measures to protect itself from such attacks; (b) demonstrating the vulnerability of the Saudi Arabian civilian population to such attacks; (c) countering inaccurate Saudi Arabia-led coalition claims to have destroyed the missile stockpiles in 2015, thus undermining the credibility of their wider media operations; and (d) demonstrating that the Houthi-Saleh alliance is capable of directly threatening Saudi Arabia. A summary of reported and confirmed launches of short-range ballistic missiles and free flight rockets is contained in annex 34 to the present report. Figure III illustrates launches of short-range ballistic missiles only.

Figure III
Launches of short-range ballistic missiles: 2015–2017



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[97] The free flight rockets are the improvised S-75 Dvina surface-to-air missile, referred to by the Houthis as Qaher-1 missiles (see S/2017/81, para. 81 and annex 32).

81. The tactical military impact of short-range ballistic missiles is limited due to their small numbers, inherent inaccuracy and relatively small high explosive warhead size (less than 600 kg to 950 kg).

2. Increased regional tensions

82. At approximately 20.07 hours (local time) on 4 November 2017 remnants of a short-range ballistic missile landed within the perimeter of King Khaled International Airport in Riyadh.[98] This particular attack[99] by the Houthi-Saleh alliance resulted in an immediate escalation of regional tensions, with an announcement by the Saudi Arabia-led coalition of the temporary closure of all ground, sea and air routes into Yemen as of 6 November 2017.

83. The Panel travelled to Riyadh from 17 to 21 November 2017 to inspect the remnants of the short-range ballistic missile attacks launched against Saudi Arabia by Houthi-Saleh forces on 19 May, 22 July, 26 July and 4 November 2017. The Panel also visited Saudi Arabia from 24 to 26 December 2017 to inspect remnants of a further short-range ballistic missile attack on Riyadh on 19 December 2017. The findings and conclusions of the Panel are set out below (see paras. 88–92).

3. Short-range ballistic missile capability of the Houthi-Saleh forces

84. It is certain that the pre-conflict Yemeni Missile Defense Command possessed at least 18 SS-1 Scud-B missiles in 2004, and had also procured 90 Hwasong-6 (Scud-C type) missiles during the first decade of the 2000s.[100] During hostilities in early 2015, the 5th and 6th missile brigades aligned themselves with the Houthi-Saleh forces.

85. The initial Saudi Arabia-led coalition air strikes failed to completely destroy the supply of short-range ballistic missiles. The first confirmed[101] Scud-C type[102] short-range ballistic missile launch against Saudi Arabia took place on 29 June 2015, with the last probable Scud-C type attack being on 26 July 2017.[103] The Qaher-1 free flight rocket attacks covered in the report of the Panel dated 31 January 2017[104] continued in 2017 until the last confirmed firing on 27 March 2017.[105]

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[98] It was initially reported that this short-range ballistic missile was interdicted in flight by a MIM-104 Patriot surface-to-air missile before reaching its intended target. From the physical evidence inspected, the Panel can only comment that the rocket motor assembly may have been intercepted. The propellant tank, which is designed to separate, had no traces of fragmentation from an interceptor missile warhead. There was also a crater at the point of impact (King Khalid International Airport).

[99] There were two previous short-range ballistic missile attacks against the Riyadh area on 5 February 2017 (Muzahimiyah) and 19 May 2017 (Riyadh governorate).

[100] Including: (a) Jane's Defence Equipment and Technology Intelligence databases, and (b) a report of the United States Congressional Research Services (see http://www.dtic.mil/cgi-bin/GetTRDoc?AD=ADA521480). Twelve Scud-type missiles were discovered in transit to Yemen on 10 December 2002, but after an initial detention the vessel was allowed to proceed to Yemen to make the delivery as there was no legal reason to seize them at that time.

[101] Letter to the Panel dated 4 October 2017 from Saudi Arabia.

[102] Either Scud-B upgraded to Scud-C level, or a Hwasong-6 supplied by the Democratic People's Republic of North Korea.

[103] Confirmed by the Panel from imagery of the warhead, which was a cluster munition type fitted to Scud-C type short-range ballistic missile.

[104] See S/2017/81, paras. 81–84 and annex 42.

[105] There have been two unconfirmed reports of missiles been fired on 7 and 27 August 2017, which could have been Qaher-1 type missiles.

B. Extended-range short-range ballistic missiles

1. Background

86. In the reporting period, there have been four confirmed attacks by short-range ballistic missiles with an extended range substantially beyond that normally expected of the missiles known to be in the inventory of the Houthi-Saleh alliance. The launch of the first missile was on 19 May 2017 (see table 1).[106]

Table 1
Confirmed launches of extended-range short-range ballistic missiles by the Houthi-Saleh alliance in 2017[a]

Date	*Event*	*Range (km)*	*Remarks*
19 May	Impacts in Riyadh province	965	First confirmed launch
22 July	Impacts on Yanbu', west of Medina	900+	Approximately 2 months since previous launch
4 Nov.	Missile launched towards Riyadh	1,043[b]	Approximately 3 months since launch of previous missile
19 Dec.	Missile launched towards Riyadh	915	Release of a video of the launch by the Houthi on 19 December 2017 Probably intercepted in flight

[a] *Source*: letter from member State of 4 October 2017 (first two launches).

[b] Since it is possible that the missile flew further than 1,000 km, it could more accurately be referred to as a medium-range ballistic missile. As the range overlap is so small, the Panel will continue to refer to it as a short-range ballistic missile as it is derived from that class of missiles. The range is based on the target event report from the Patriot system. The data obtained through the Shared Early Warning Systems places the estimated launch point one degree of longitude further north, which would mean a range of 937 km.

[c] See https://mobile.almasdarnews.com/article/video-footage-houthis-long-range-missile-launch-saudi-arabia/.

87. A Houthi military spokesperson, major general Sharaf Luqman, admitted for the first time on 30 March 2017 that missiles damaged by the air strikes were being repaired and modified by Yemeni specialists.[107] The Panel has also not discounted the idea that foreign missile specialists may be providing technical advice in Yemen,[108] or that Houthi-Saleh missile specialists may have visited a third country for training. The Houthi forces almost certainly do not have the design or engineering capability to manufacture a new type of short-range ballistic missile.

2. Technical analysis and finding

88. The Panel initially examined the options available to extend the range of the Scud-C type short-range ballistic missile known to be in the Houthi-Saleh inventory, and concluded that sufficient weight savings could not be made to such missiles, nor could the power output be upgraded sufficiently to account for an extension of range from a known maximum of 600 km to over 1,000 km.

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[106] There were also unconfirmed media reports of a short-range ballistic missile landing in Riyadh province on 5 February 2017. If confirmed, this would be the first identified launch of an extended-range short-range ballistic missile from Yemen.

[107] sputniknews.com/middleeast/201703301052137016-yemenis-repair-sovietmissiles/.

[108] https://english.alarabiya.net/en/features/2018/01/01/Who-are-the-Iranian-Revolutionary-Guard-officers-leading-Houthis-in-Yemen-.html.

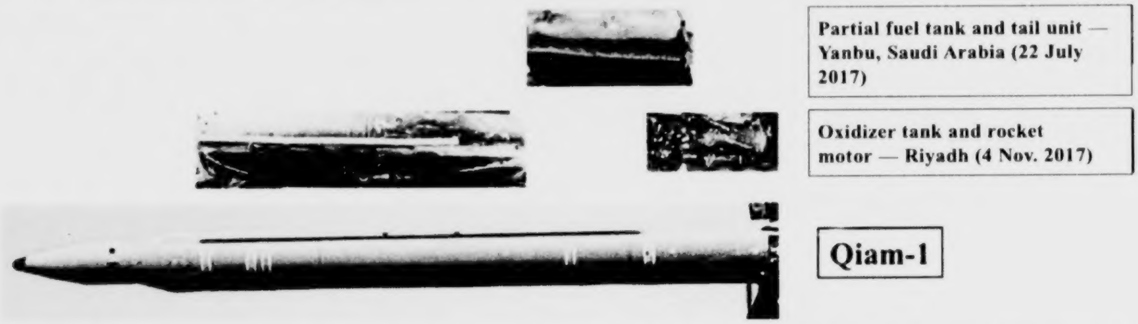
89. Launches of short-range ballistic missiles beyond the range of 670 km were observed in 2016, which indicates that a weight-saving programme to the Scud-C types almost certainly took place in 2016 (see annex 35), achieving a limited range extension of approximately 11.75 per cent for that type of missile. Evidence of this includes the use of composite material compressed air bottles of a United States design instead of the standard steel air bottles.[109] The Houthi refer to this missile as the Borkan-2.

90. After inspecting the remains of the "22 July" and "4 November" extended range short-range ballistic missile in Riyadh the Panel now finds that:

(a) Many of the internal design features,[110] external characteristics[111] and dimensions of the remnants of the missile inspected by the Panel are consistent with those of the Iranian designed and manufactured Qiam-1 missile. This means that they were almost certainly produced by the same manufacturer. Figure IV shows the position of the main components inspected by the Panel in relation to a Qiam 1. Figure V is an illustration of the Scud-C type missile, while figure VI is an illustration, for comparison, of the extended-range short-range ballistic missile inspected by the Panel;

Figure IV

Major components and their relative position compared to a Qiam-1 short-range ballistic missile[a]


Partial fuel tank and tail unit — Yanbu, Saudi Arabia (22 July 2017)
Oxidizer tank and rocket motor — Riyadh (4 Nov. 2017)
Qiam-1

[a] Image of the extended-range-short-range ballistic missile taken by the Panel in Riyadh on 19 and 20 November 2017 (Qiam-1 image from http://3.bp.blogspot.com/-qsK7VV6oZfc/Tq1ET0NxVdI/AAAAAAAAADo/NGlhWpeJTsw/s1600/Qiam-1.jpg).

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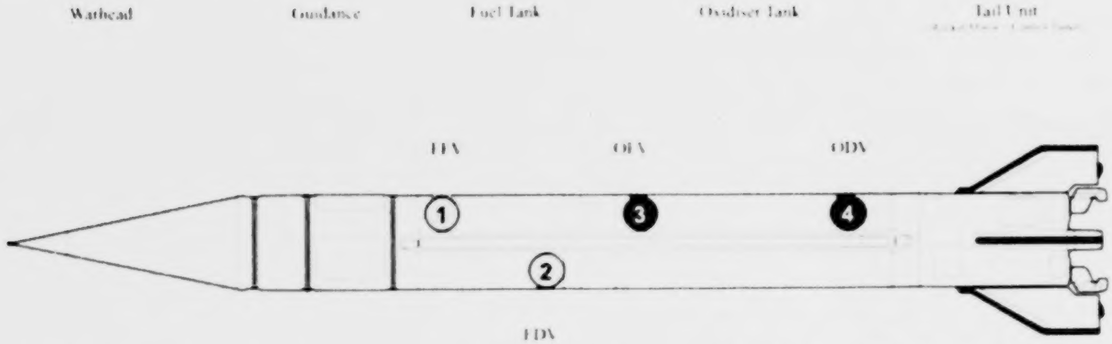
[109] The company could not trace these components owing to the large production volumes of such bottles.

[110] For example, the reversal of the positions of the fuel and oxidizer tanks in the missile body. This configuration is only seen, within the known short-range ballistic missile systems, on the obsolete Scud-A and the Iranian Qiam-1 missiles. Other design features of the extended-range short-range ballistic missile include: (a) composite compressed air bottles; and (b) an upgraded guidance system.

[111] For example: (a) the use of a mainly aluminium airframe; and (b) the lack of fins at the rear of the missile. Scud-C variants have fins, the Iranian Qiam-1 does not.

Figure V

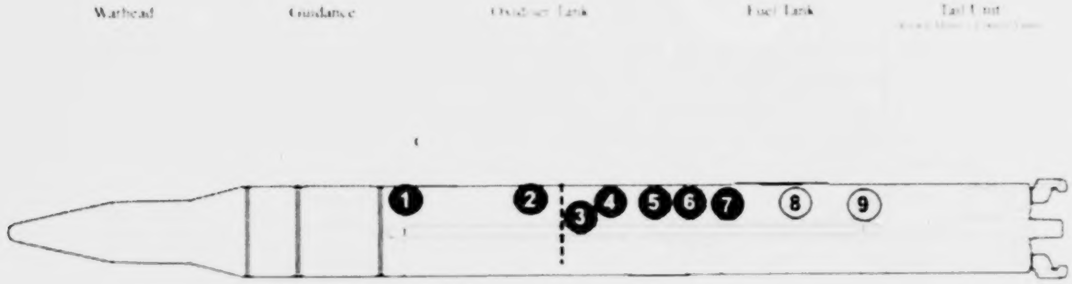
Illustrative main section layout of Scud-C missile[a]



[a] Panel diagram (not to scale). Valves are shown larger proportionally than on real missile to assist in identification (see annex 36, appendix C, figure C.36.1).

Figure VI

Illustrative main section layout of an extended-range short-range ballistic missile[a]



[a] See annex 36, appendix C, figure C.36.2.

(b) A standard Qiam-1 missile has an operational range of 750 to 800 km, as compared to the over 1,000km range of the missile examined by the Panel. The Panel finds it is not a Qiam-1 short-range ballistic missile, but a derived lighter version, designed specifically by the manufacturers of the Qiam-1 to extend the range to over 1,000 km by reducing weight;[112]

(c) Variations in build quality and welding standards identified by the Panel mean that the technology was almost certainly transferred in modular system form,[113] requiring the missile engineers of the Houthi-Saleh alliance to assemble and functionality test the missiles prior to operational deployment;

(d) Three jet vane housings from the remnants of the 4 November 2017 missile had markings (see figure VII) very similar in design to the company logo of Shahid

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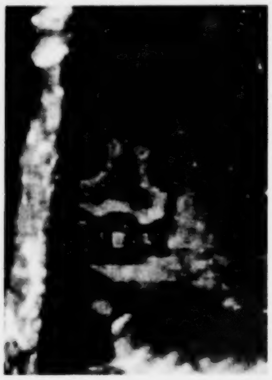
[112] The Iranian designed and manufactured Shahab-3 missile has a range of 1,300 km, so this missile was almost certainly not designed to fill in a "range gap" in the Iranian ballistic missile suite.

[113] The modular system consists of: (a) warhead; (b) guidance unit; (c) fuel tank; (d) oxidizer tank; and (e) rear section (rocket motor, actuators and pumps).

Bagheri Industries,[114] based in the Islamic Republic of Iran (see figure VIII). A tracing request has been sent to the authorities in the Islamic Republic of Iran;[115]

Figure VII

Enhanced image of Shahid Bagheri Industries logo on a jet vane housing[a]



[a] Image taken by the Panel.

Figure VIII

Shahid Bagheri Industries logo on a trade stand[a]

[a] *Source*: http://www.sns.co.ir/?p=327.

(e) The Houthi-Saleh alliance has obtained access to "extended-range" missile technology more advanced than the Scud-C and Hwasong-6 short-range ballistic missiles that the alliance was known to possess in January 2015. They refer to this missile as the Borkan-2H, and this is the name attributed to the missile by the Panel;

(f) It is highly probable that the route used to supply the Borkan-2H components was the main land supply route into Houthi-Saleh-held territory following a ship-to-shore transfer to the ports in the area of Nishtun and Ghaydah in Mahrah governorate.[116] Although concealment in cargo of vessels offloading in the Red Sea ports is unlikely, it cannot be excluded as an option;

(g) The use of the Borkan-2H against civilian targets in Saudi Arabia is a violation of international humanitarian law (see para. 179 below and annex 64);

(h) As of yet, the Panel has no evidence as to the identity of the supplier, or any intermediary third party;[117]

(i) As the Islamic Republic of Iran has not provided any information to the Panel of any change of custody of the components for the building of extended-range short-range ballistic missiles, the country is in non-compliance with paragraph 14 of resolution 2216 (2015) in that it failed to take the necessary measures to prevent the direct or indirect supply, sale or transfer of such technology to the Houthi-Saleh forces, an entity acting at the direction of listed individuals.[118]

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[114] Also possibly known as Shahid Bakeri Industries. This organization is a subsidiary of the Iranian Aerospace Industries Organization.

[115] Request sent in Panel letters dated 9 and 12 December 2017.

[116] The Panel notes the redeployment of the 123rd Infantry Brigade to Ghaydah and the appointment of a new Governor of Mahrah, Rajih Said Bakarit, on 27 November 2017, as part of the strategy to improve security along this main supply route.

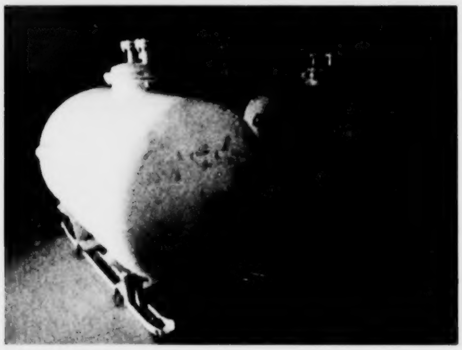
[117] The Panel sent tracing requests to the Member State of the manufacturer on 26 November, 11 December and 14 December 2017.

91. The Panel's observations and full technical analysis to support the above findings are presented in annex 36.

3. Related case: liquid propellant oxidizer field storage tanks for short-range ballistic missiles

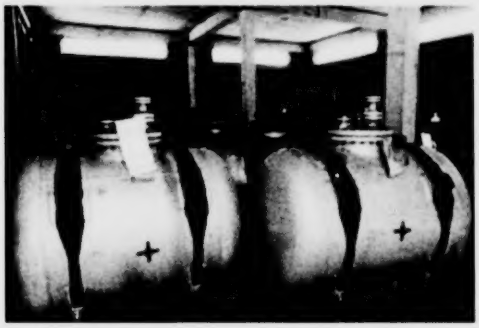
92. In January 2017, a consignment of industrial process equipment was seized by a member State of the Saudi Arabia-led coalition near Ma'rib, along the main supply route from the Mahrah governorate. Two hazardous chemical storage tanks, which were also seized in the shipment, are almost identical in design, configuration and size to the oxidizer storage field tanks used for the Scud-type missile or other short-range ballistic missile systems (see figures IX and X for comparison).

Figure IX
Oxidizer field storage tanks seized near Ma'rib[a]



[a] *Source*: confidential

Figure X
Scud oxidizer field storage tank[b]



[b] Stored at Gharyan Air Defence base, Libya (2017). Confidential source.

93. Although most of the other equipment seized is also standard for the chemical or food processing industries, some items show artisanal crafting such as unusual welding connectors (pipelines and flanges) and other improvised engineering features. This proves adaptation for a purpose other than initially designed for. The Panel finds that the equipment has military utility for the reprocessing of inhibited red fuming nitric acid, the oxidizer for the liquid bipropellant used in short-range ballistic missiles.

94. Tracing requests by the Panel have identified that: (a) two components were manufactured in the Islamic Republic of Iran; (b) three components were supplied to the Islamic Republic of Iran from foreign manufacturers, one of which was paid for through a European bank account and had Farsi labelling added to it.[119]

95. The Panel as of yet has no evidence as to the identity of the supplier, or any intermediary third party.[120]

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[118] The Panel wrote to the Islamic Republic of Iran on 15 December 2017, informing the authorities of this finding and again requested any information the Government may have as to any change in custody of these components. The Panel then visited the Islamic Republic of Iran from 15 to 17 January 2018 for further discussions. For the Islamic Republic of Iran's response to the Panel's findings, see annex 36, appendix E.

[119] See full analysis in annex 36, appendix A.

[120] The Panel sent tracing requests to the Member State involved on 11 December 2017.

96. Since it has not provided any information to the Panel of any change of custody of the liquid bipropellant storage tanks or accounted for the presence of Iranian manufactured components, the Islamic Republic of Iran is in non-compliance with paragraph 14 of resolution 2216 (2015) in that it failed to take the necessary measures to prevent the direct or indirect supply, sale or transfer of military equipment related to extended-range short-range ballistic missiles to the Houthi-Saleh forces, an entity acting at the direction of listed individuals.[121]

C. Houthi use of unmanned aerial vehicles

97. During 2017 the forces of the Houthi-Saleh alliance continued to make limited use of small and medium-sized unmanned aerial vehicles for intelligence, surveillance, target acquisition and reconnaissance,[122] and in the case of the medium-sized unmanned aerial device, explosive attacks.[123] The small unmanned aerial vehicles are all based on commercially available systems, such as the X-8 Skywalker, which have a military utility for surveillance and target planning.

1. Qasef-1 unmanned aerial vehicles

98. On 27 November 2016, a Dubai registered truck (Dubai/13933) was intercepted at the al-Milh checkpoint near Ma'rib and was found to contain components for at least six complete Qasef-1 unmanned aerial vehicles and components for up to another 24.[124] Components were also recovered by forces of the United Arab Emirates from crashed unmanned aerial vehicles in Ma'rib (19 September 2016)[125] and Aden airport (16 November 2016).[126]

99. The Panel finds that the medium-sized Qasef-1 unmanned aerial vehicle is virtually identical in design, dimensions and capability to that of the Ababil-T,[127] manufactured by the Iran Aircraft Manufacturing Industries.[128] The analysis of the Qasef-1 UAV is provided in annex 38.

100. The Panel has identified that at least two components of the system were supplied to the Islamic Republic of Iran after the implementation of the targeted arms embargo on 14 April 2015. The route for the funding of one of the components used a third party broker, and an intermediary account in a third country. This is indicative of a deliberate attempt to disguise the final destination of the components.

101. The Panel finds that, based on: (a) the design of the unmanned aerial vehicles; and (b) the tracing of component parts, the material necessary to assemble the Qasef-1 unmanned aerial vehicles, emanated from the Islamic Republic of Iran.

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[121] See footnote 118 above.

[122] Initially reported in the Panels' 2017 confidential mid-term update.

[123] See annex 37 for summary of explosive attacks on forces of the United Arab Emirates.

[124] Information contained in a letter from a Member State. information includes Qasef-1 serial Nos. 22-122-33, 22-122-34, 22-122-38, 22-1721-39, 22-1721-X, 22.1721-0 and 22-1722-9.

[125] Letter from Member State, including Qasef-1 serial No. 22-1728.

[126] Qasef-1 serial No. 22-122-39.

[127] Janes' database (see www.janes.his.com).

[128] Iran Aircraft Manufacturing Industries is a subsidiary of the Iran Aircraft Industries Organization, owned by the Government of the Islamic Republic of Iran, and is part of the Defence Industries Organization conglomerate.

2. The "Rased" unmanned aerial vehicles

102. The unmanned aerial vehicles referred to as the "Rased" (surveyor) by the Houthi-Saleh alliance is almost certainly the Skywalker X-8 unmanned aerial vehicle (see annex 39).

3. Embargo violations

103. The Panel considers that the supply of unmanned aerial vehicles specifically designed for military intelligence, surveillance, target acquisition and reconnaissance or attack operations to entities acting on behalf of individuals or entities designated by the Security Council falls within the scope of "military equipment" under paragraph 14 of resolution 2216 (2015).

104. As the Islamic Republic of Iran has not provided any information to the Panel of any change of custody of the Qasef-1 or the components,[129] the Islamic Republic of Iran is in non-compliance with paragraph 14 of resolution 2216 (2015) in that it failed to take the necessary measures to prevent the direct or indirect supply, sale or transfer of military related equipment to the Houthi-Saleh forces, an entity acting at the direction of listed individuals.

105. The Panel considers that since commercially available unmanned aerial vehicles can have significant military utility for surveillance and target reconnaissance, or can be easily modified to operate as attack drones, they should also fall within the scope of "military equipment" under paragraph 14 of resolution 2216 (2015) when used for military purposes.

D. Waterborne improvised explosive devices

106. The Houthi have successfully deployed waterborne improvised explosive devices on at least two occasions: (a) an attack against a Royal Saudi Arabian Navy frigate; and (b) in the port of Mukha. The Panel notes that the United Arab Emirates have released information on a seizure of this type of explosive device to the United States and a commercial armament investigative company.

107. Although the Panel has seen imagery and third-party analysis of waterborne improvised explosive devices, it does not include any analysis or findings in the present report as the information it has seen does not meet the criteria of transparency and verification contained in paragraphs 21 and 22 of the best practices and methods recommended in the report of the Informal Working Group of the Security Council on General Issues of Sanctions (S/2006/997).

108. The Panel finds that the United Arab Emirates is in non-compliance with paragraph 8 of Security Council resolution 2342 (2017), in that it did not provide unhindered access to documents and sites, in order for the Panel of Experts to execute its mandate. The Panel further finds that it is also in non-compliance with paragraph 17 of Council resolution 2216 (2015), in that it did not promptly supply an initial written report on the seizure to the Committee, nor a subsequent written report within 30 days of the seizure.

109. The Panel cannot therefore independently confirm that the technology was transferred to Yemen after the implementation of the targeted arms embargo on 14 April 2015 (see resolution 2216 (2015), para. 14), and continues to investigate.

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[129] Panel letter to Islamic Republic of Iran dated 19 December 2017

E. Sea mines

110. The Panel has identified further use of sea mines during 2017. The chronology of incidents is contained in annex 40 to the present report.

1. Iranian manufactured "bottom" sea mines

111. The United Arab Emirates reported the discovery of at least three sea mines in the port of Mukha to the Panel.[130] The recovered sea mines (see figure XI) are consistent in shape and size to the Iranian manufactured "bottom" sea mine (see figure XII), which was first identified at an Iranian arms fair in October 2015.

Figure XI
Sea mine recovered from Mukha (2017)

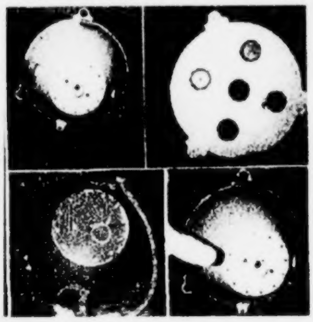
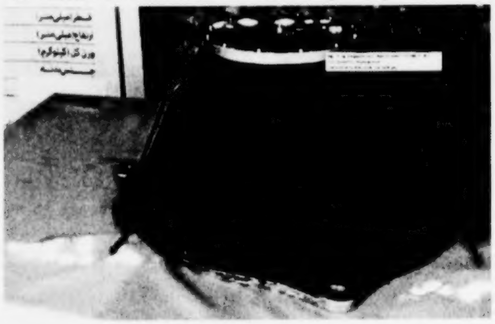


Figure XII
Sea mine at Iranian Arms fair (2015)



112. The Panel has written to Iran requesting clarification as to the nomenclature and export status of the type of sea mine shown in figure XII but has yet to receive a response.

2. Use of improvised sea mines by the Houthi-Saleh alliance

113. The Panel has investigated the confirmed use of improvised sea mines[131] by the Houthi-Saleh alliance.[132] One mine was recovered from Midi on 23 March 2017 (see figure XIII) and two of a similar but not identical design from Thwaq Island[133] (see figure XIV) on, or around, 27 May 2017. The recovery from Thwaq Island, which is uninhabited, is evidence that these types of mines have been deployed in the Red Sea by the Houthi. Since approximately 12 improvised mines were seen in a shore storage area in Houthi-controlled territory in November 2016[134] it is highly likely that more than the three recovered improvised mines were deployed, and thus a threat to the sea lines of communication in the Red Sea now exists. The length of the threat posed by such mines is dictated by the battery life of their power source, which is dependent on the type of AA battery used, however, it could be between 6 to 10 years.

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[130] Initially reported in para 61 of the 2017 confidential midterm update

[131] Reported in a letter to Committee dated 13 September 2017

[132] Initially reported in paras 63 and 64 of the 2017 confidential midterm update

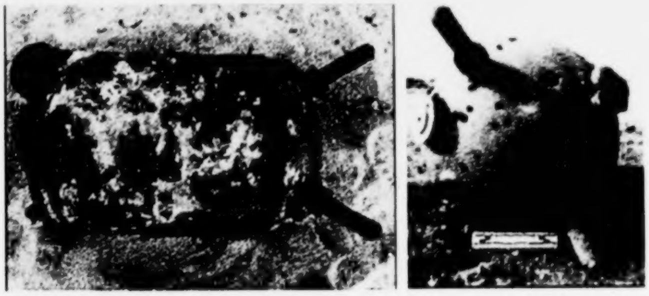
[133] Coordinates 16° 18' 42.61" N, 42° 41' 10.77" E.

[134] Confidential source

Figure XIII
Improvised sea mine recovered near Midi (23 March 2017)[a]

[a] See www.youtube.com/watch?v=6H04M4Vpit8&feature=youtu.be

Figure XIV
Improvised sea mines recovered from area of Thwaq Island (May 2017)[b]



[b] Imagery from a Member State and confirmed by the Panel.

The Panel would not normally use uncorroborated single source social media, but as the imagery shows a design virtually identical to that described by a confidential eyewitness the Panel has included it.

114. Although designed to be used as moored contact mines, the design is flawed and these mine types will not always moor as designed, or may break free of their mooring. The recovered mines from Thwaq Island are evidence that some of these mines have already become drifting sea mines. A detailed technical and threat analysis is provided in annex 41.

F. Anti-tank guided missiles

115. In its report dated 31 January 2017,[135] the Panel reported on the seizure and operational use of anti-tank guided missiles with characteristics very similar to that of the Iranian manufactured Dehleyvah. The lack of open source information at the time prevented the Panel from confirming them as Dehleyvah missiles.

116. The Panel has now compared the markings and design features of the 9M133 Kornet and Iranian Dehleyvah missiles seized by the French naval vessel *La Provence* on 20 March 2016.[136] The findings, provided in annex 42 to the report, will act as a definitive source[137] for future investigations and identification.

G. Black market

1. Small arms ammunition

117. The Panel has continued to monitor the price of small arms ammunition on the black market. Although prices have now started to rise (by 20 per cent during 2017), as shown in annex 43, the cost of (for example) one type of 7.62 mm x 39 mm round in Aden is now still significantly less ($0.94) than it was prior to the conflict ($1.60). This gives a strong indication that small arms ammunition is still readily available to all parties in Yemen, and that no external resupply is needed as yet.

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[135] S/2017/81, paras. 76 and77 and annex 37.

[136] See S/2017/924, annex 7.2.

[137] See also https://www.ihs.com/products/janes-weapons-ammunition.html.

2. Suspicious end user certificates

118. The Panel has obtained[138] a copy of a number of end-user certificates issued by the Houthi-Saleh administration that are designed to support the procurement of weapons and ammunition from Bulgaria, China, the Philippines, the Islamic Republic of Iran, Serbia and the Slovak Republic by the then Houthi-Saleh administration (see annex 44). The Panel has contacted these Member States: Bulgaria, China, the Philippines and the Slovak Republic have all confirmed that these end-user certificates have not been presented for any arms purchases from them.

119. The company authorized to broker the above potential arms trades, Al Fosal Trading (also known as Fusal), is listed as being managed by Adeeb Fares Mohamed Mana'a, the son of designated individual, and known arms trafficker, Fares Mohammed Hassan Mana'a (SOi.008).[139] Fares Mana'a is currently a Sana'a based minister of state.[140]

120. The date of the documentation, 6 July 2015, is three months after the Houthi-Saleh alliance took control of Sana'a. By that time, as reported by the Panel is its report dated 31 January 2017,[141] the Houthi-Saleh alliance had taken control of potentially up to 68 per cent of the national arms stockpile. It is thus unlikely that they would have needed at that point to be exploring means of procuring the small arms, light weapons and ammunition listed in these end-user certificates. It is more likely that Fares Mohammed Hassan Mana'a seized an opportunity to use his contacts in the then new Houthi-Saleh administration to obtain appropriate documentation that could be used to support arms procurement for his regional arms business.

121. As previously reported by the Panel,[142] both Fares Mana'a and Adeeb Mana'a were involved in a separate illicit regional arms transfer during the period from 2013 to2015. The involvement of Fares Mohammed Hassan Mana'a as part of the brokering company, and his known relationship with the Houthis, means that any future potential regional transfer using these end-user certificates would still be to the financial benefit of listed individuals, and thus a violation of paragraph 14 of resolution 2216 (2015).

H. Increasing the effectiveness of the targeted arms embargo

122. The deployment of advanced extended-range short-range ballistic missiles technology by the Houthi-Saleh forces demonstrates a vulnerability in the current inspection and enforcement measures to well-planned shipments of non-explosive arms and arms-related material.[143] Only the Government of Yemen and the Saudi Arabia-led coalition are in a position to improve interdiction measures to cover the land route from Mahrah.

123. The Panel has examined options for enhancing inspection rates for the United Nations Verification and Inspection Mechanism for Yemen (UNVIM) system so as to improve the confidence of the Saudi Arabia-led coalition in the process. A permanent UNVIM presence at Hudaydah port, would: (a) serve to increase the confidence of the Saudi Arabia-led coalition that illicit shipments through that port would be made more

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[138] Confidential source

[139] Listed under authority of paragraph 8 to resolution 1844 (2008) on 12 April 2010 by the Security Council Committee pursuant to resolutions 751 (1992) and 1907 (2009) concerning Somalia and Eritrea

[140] Appointed on 28 November 2016

[141] See S/2017/81, para. 78 and annex 39

[142] Ibid., para. 80 and annex 41.

[143] As noted in the Panel's confidential medium-term update, the seizure of components for military unmanned aerial vehicles from the Houthi-Saleh forces by the Saudi Arabia-led coalition forces in Ma'rib in 2016 is another indicator of this vulnerability

difficult; (b) act as a deterrent to any illicit shipments that may be taking place. The deployment of a naval or fleet support vessel anchored at the entrance of Hudaydah port under the auspices of the United Nations would negate the known problems of a permanent shore-based presence. Such a vessel would have the necessary surveillance and weapons systems for self-protection, with the ability to take UNVIM inspectors ashore, when necessary. When ashore, armed naval ratings or marines from the host vessel could provide close protection, with port security being contracted to private security companies approved by the Houthi administration under a memorandum of understanding. This would significantly reduce the personal risk to UNVIM inspectors and negate the logistic and security requirements needed for a permanent shore presence, while ensuring a neutral inspection and monitoring presence during commercial vessel discharges. The vessel could also serve as a base for capacity- building training of a neutral Yemeni coast guard, which would combine elements from both parties.

V. Economic context and overview of finance

124. In accordance with its mandate, the Panel has investigated the economic context in which individuals designated pursuant to resolutions 2140 (2014) and 2216 (2015) and their networks have continued to operate in violation of sanctions measures. In particular, the Panel has examined the flow of money, the transfer of wealth and the establishment of new shell companies to finance operations that threaten the peace, security or stability of Yemen.

125. The Panel finds that during 2017 the legitimate Government, local authorities, the Houthi-Saleh alliance and other militia forces all continued to collect "State" revenues in their respective areas with only a limited return by way of the provision public services. Their actions have eroded the foundations of the formal economy and created a liquidity problem, increasing the likelihood of a collapse of the Yemeni banking and financial system. Conditions now exist that are conducive to money laundering, an additional impediment to a peaceful political transition and recovery. The continuing conflict has enabled new profiteers of war to emerge from Yemen, who are gradually replacing the traditional business communities based in Sana'a and Ta'izz. This will certainly create new challenges and additional spoilers.

A. Control of State economic resources by the Houthis and their affiliates

1. Revenue collected by the Houthis from State assets

126. The Houthis continue to directly control most of the national economy in their areas through ministers and managers loyal to them, or through deputies and revolutionary committees who act as supervisors within their organizations.

127. The Panel has analysed non-tax revenues from the latest available State budget (2011) in order to evaluate what could potentially be available for Houthi exploitation. This equates to approximately 2,818 billion rials ($11.3 billion),[144] of which a minimum of 407 billion rials ($1.62 billion) might be under their control (see annex 45).

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[144] The official exchange rate is fixed by the Central Bank of Yemen at $1 to 250 Yemeni rials in Sana'a and at a floating rate of about $1 to 370 rials (since 15 August 2017), the market rate on that date. The rate has increased continuously since then, reaching 400 rials per dollar by 31 December 2017. The Panel, in analysing the Sana'a-based economy, has used the official rate of 250 rials to the dollar or the market rate of 370 rials to the dollar (figures rounded to nearest $100,000).

128. Telecommunications companies are the main source of revenue for the Houthis in Sana'a.[145] On 21 August 2017, the Sana'a based minister of telecommunications, Julaidan Mahmood Julaidan,[146] an affiliate of the General People's Congress, informed a media conference that mobile telecommunications companies have transferred 98 billion rials ($264.8 million) during the 20 months since he took over the ministry on 1 December 2016.[147] This amount, which is not denied by the Houthis, represents an equivalent of $159 million per annum.

129. Tobacco sales account for the second main source of revenue available to the Houthis. For example, Kamaran Industry and Investment declared that its 2015 tax and customs duties bill was 23.9 billion rials ($64.7 million).[148] The Panel estimates an equivalent amount from the other two producers.[149]

130. In order to increase custom revenues the Houthis started to collect additional customs duties on commodities imported through the areas under the control of the legitimate Government (see annex 46).

131. On 28 May 2016, Yahya Mohamed Abdullah al-Osta was appointed by Mohamed Ali al-Houthi as the acting head of the Sana'a-based Yemen customs authority.[150] Since then he has overseen the implementation of illegal mechanisms for the collection of customs duties for the benefit of entities and individuals acting on behalf and under the control of Abdulmalik al-Houthi.

132. On 4 April 2017, the Sana'a based ministry of finance established new permanent customs posts at the Amran and Dhamar checkpoints,[151] designed to exploit the additional road traffic as a result of the decrease of traffic through the Hudaydah port route.

2. Black market fuel

133. The Panel finds that the distribution of fuel and oil products remains one of the main sources of revenue for the Houthis. The monopoly on the import and distribution of oil products by the Yemen Petroleum Company was terminated by the Houthis on 28 June 2015.[152] They orchestrated a private bidding competition for the distribution, which now allows them to control the sector, mainly through the use of black market distributors under their control.

134. Data available to the Panel between May 2016 and July 2017, when the official exchange rate was at 250 rials to $1, indicates that Houthi revenue from the black-

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[145] Four telecommunications companies are operating in Yemen: (a) mobile (State owned); (b) Y Telecom (under State control); (c) Sabafon, associated with Hamed Al Ahmar; and (d) MTN, known to be associated with Shaher Abdulhaq, although the Panel has learned that he probably transferred his shares to MTN South Africa in exchange for shares in that company.

[146] Reported as executed by the Houthis after 4 December 2017.

[147] General People's Congress-affiliated television, Al-Yemen Alyoum, 21 August 2017 (see https://www.youtube.com/watch?v=RIsXBIGWvhk).

[148] See http://www.kamaran.com/english/research_and_development.php.

[149] Three companies associated with brands such as Pall Mall and Rothmans control the sale of tobacco in Yemen. One being the Kamaran United Industries Company of the HSA Group. The State collects 90 per cent of the sales price for each pack sold, in addition to 18 rials for various other fees.

[150] Mohamed Abdullah al-Osta was a mid-level staff member working as a legal adviser within the ministry of finance.

[151] Decision 138 of 2017 (see http://customs.gov.ye/news_show_ar.php?id=132).

[152] Fuel distribution in Yemen has always included revenue gained from smuggling across the region. Fuel in Yemen was not taxed, but subsidized, the arbitrage thus making it profitable for smuggling across the Horn of Africa. The Houthis took Sana'a using the pretext of the removal of fuel subsidies by the Government under the former Prime Minister Mohammed Basindawa. Currently there are no taxes or subsidies on fuel imports.

market sale of oil products delivered at the Red Sea ports of Hudaydah and Ra's Isa[153] could be as high as 318 billion rials ($1.27 billion)[154] (see annex 47).[155]

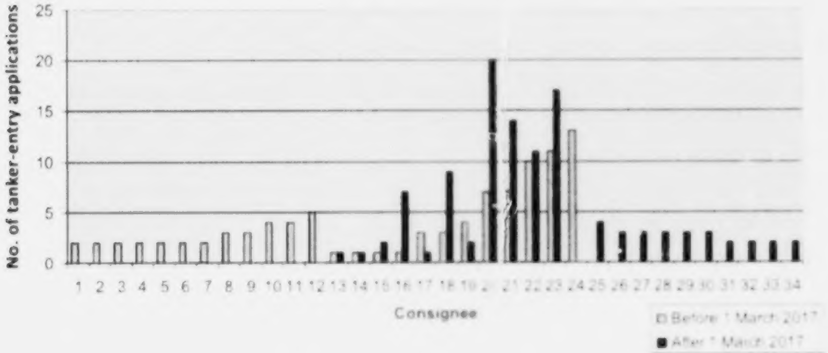
135. The Panel noted that to date 61 companies have applied for entry clearance through UNVIM[156] for 234 tankers, of which 173 have been allowed to deliver fuel.[157] The list of consignees is provided in confidential annex 48. The Panel noted that only 11 companies have continued to import fuel during 2016 and 2017 while 12 companies appear to have ceased importing to Yemen after 1 March 2017 and 11 new companies have emerged since that date. This is indicative of a Houthi strategy to take control of oil imports. Further evidence includes:

(a) Only the Alhutheily Group, with a previous track record in the oil industry, has continued to operate at the same level (see consignee line 22 in figure XV; details are given in annex 48, appendix 2);[158]

(b) The Falak Shipping Company, used by the Tawfiq Mathar brothers, which used to import fuel to Yemen for the Yemen Petroleum Company during the Saleh era, has ceased to operate through the Yemeni Red Sea ports;

(c) All current active oil importers are Houthi affiliated.

Figure XV
Change of fuel consignees during 2016 and 2017



136. The Panel continues to monitor the situation in order to assess if the space lost by pre-Houthi era businessmen is a consequence of the conflict, or part of a strategy to replace them with what Yemenis are calling "Generation 2017" businessmen (in reference to Houthi business associates in Yemen). The Panel is investigating the change of beneficial ownership of the Vulcan Group, the most important supplier for the Yemeni Ministry of Defence during the Saleh era.[159]

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[153] Closed since June 2017.

[154] Central Bank of Yemen rate of $1 = 250 rials.

[155] Data collected from: (a) UNVIM records of fuel delivered since May 2016; (b) market prices in Yemen for fuel delivery, transport and storage; and (c) other fees corroborated with traders and sources inside Yemen.

[156] See https://www.vimye.org/docs/GoY Announcement of UNVIM Launch.pdf.

[157] The amount delivered equals 2,358,953 tons of fuel products, as at 30 November 2017.

[158] ATICO Trading and Company, registered in Yemen, is a traditional operator in the oil industry (see http://www.alhutheily.com/index.php/contact).

[159] See http://vulcanyemen.com/. The Panel has evidence indicating the owner's (Khalid Ahmed Alradi) involvement of previous contracts. The Houthis killed him on 26 August 2017 for being a Saleh supporter.

3. Risk of the looting and trafficking of antiquities and cultural objects

137. The Panel has investigated the risks of smuggling of antiquities and cultural objects from conflict areas in Yemen for sale abroad (see annex 49).

138. A case of artefacts seized in Switzerland between 2009 and 2010 arriving from Qatar and the United Arab Emirates, although still under a judicial process,[160] could assist the Panel in identifying smuggling methods and networks. Although the artefacts left Yemen before the imposition of sanctions, the Panel is investigating this case as the objects in question were illegally exported, in violation of the Yemen Law of Antiquities N21/1994,[161] during the Saleh regime and may lead to the identification of more of the Saleh family assets. The market value of the artefacts is estimated at more than $1.5 million.

139. As there is no official record of Yemeni cultural heritage, the interdiction of antiquities exported and sold for profit abroad is very difficult to ascertain. The Panel has seen images posted on the official media sites of parties in Lahij, Sana'a and Ta'izz showing precious artefacts abandoned without any protection mechanism. Recently, al Masirah television, showed images of the house of Tawfiq Saleh Abdulla Saleh, the former chairman of Kamaran.[162]

B. Money supply problems

1. Liquidity in Yemen and the Central Bank of Yemen

140. In Houthi-controlled territory, a central bank structure with private banks and finance institutions continues to operate.[163]

141. In 2017 the legitimate Government managed to print 600 billion rials ($1.6 billion).[164] The printing was aimed at: (a) securing a reserve to restart the payment of salaries; (b) improving the circulation of cash in all of Yemen as the M1[165] money supply is now depleted; and (c) to replace damaged banknotes. None of these objectives have yet been achieved.[166]

142. The Houthis tried to solve the liquidity problem using several approaches, which have all failed so far, including:

(a) The corrupt use of a food voucher system by an individual reported to be "Abu Nabil al-Qaramani", who operates with Houthi permission for their financial benefit (see annex 52);

(b) An attempt to use 5,000 rial promissory notes printed outside Yemen was foiled by a seizure in the Government controlled area of Jawf, on 25 May 2017, of a truck carrying 35 billion rials ($140 million) worth of such notes. This denomination has not been used so far for transactions (see annex 53).

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[160] See http://ge.ch/justice/vestiges-archeologiques-le-ministere-public-confisque-des-objets-provenant-de-palmyre-en-syrie-du-ye.

[161] Amended by Law 8/1997 of 17 February 1997.

[162] See http://www.yafa-news.net/archives/263955 and http://almasirah.net/gallery/preview.php?file_id=10481#.WitfxrochmS.whatsapp (at minute 15.36).

[163] All of the 18 banks licensed to operate in Yemen have their main office in Sana'a, apart from the National Bank of Yemen, known as Al Ahli Bank, which has its main office in Aden (see annex 50).

[164] Printing by the Russian GOZNAK Joint Stock Company (see http://goznak.ru/en/).

[165] M1 is a metric that measures the most liquid components of the money supply. It includes cash and assets that can quickly be converted to currency.

[166] The M0 (or M-zero) money supply in Yemen is estimated to be 1,129.5 billion rials according to a 2014 report issued by the Central Bank of Yemen. This could represent 50 per cent of the M1 money supply according to a Bank official (information provided to the Panel meeting in Riyadh, June 2017). Banknotes older than six years are likely to be torn and invalidated for transactions. Data on the annual printing of banknotes is provided in annex 51.

143. The Panel submitted a 5,000 Yemeni rial note for forensic analysis in order to identify the parties behind the counterfeit as well as external entities and individuals supporting them.

144. The Panel noted that on 20 November 2017, the Office of Foreign Assets Control of the United States Department of the Treasury designated an Iranian network and *ForEnt Technik GmbH*,[107] an Iranian-owned, Frankfurt-based company, for their involvement in the printing of the above-mentioned counterfeit Yemeni bank notes.[108] The Panel continues to investigate this matter.

2. Cross-border trafficking of money and gold

145. The Panel has investigated three cases of trafficking of finance assets for the benefit of the Houthi-Saleh alliance acting on behalf of listed individuals (see table 2).

Table 2
Financial seizures in Mahrah: 2017
(Value given in millions of United States dollars)

Date	*Location*	*Route*	*Smugglers*	*Assets seized*	*Value*
9 May	Shehen, Mahrah	Yemen to the United Arab Emirates	Yemeni	Banknotes 7 gold bars	3.42
17 July	Shehen, Mahrah	Yemen to the United Arab Emirates	United Arab Emirates-based Yemenis	7,174,700 Saudi riyals	1.91
27 July	Shehen, Mahrah	Yemen to the United Arab Emirates	Citizens of the United Arab Emirates	700,000 Saudi riyals 42 gold bars	0.19

146. These cases illustrate the level of smuggling activity in Mahrah governorate (see annex 54).

C. Financial consequences of the conflict on the import of food

147. Restrictions imposed by the parties to the conflict on imports has resulted in significant additional financial costs to importers. Many suppliers and freighters are no longer willing to take the risk of entering into transactions with Yemeni importers.

1. Hard currency exchange problems

148. The main challenge is that hard currency is now mainly exchanged through the underground economy, with all the associated risks linked to corruption and money laundering. Currency transfers from Yemeni workers and the diaspora abroad has mainly been in Saudi riyals. Prior to the current conflict, any excess of Saudi riyals accumulated by Yemeni banks and money exchanges used to be transferred by air to Bahrain, where it was exchanged for United States dollars and converted into letters of credit.

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[107] See http://forent-tech.com/index.html.

[108] See https://www.treasury.gov/press-center/press-releases/Pages/sm0219.aspx.

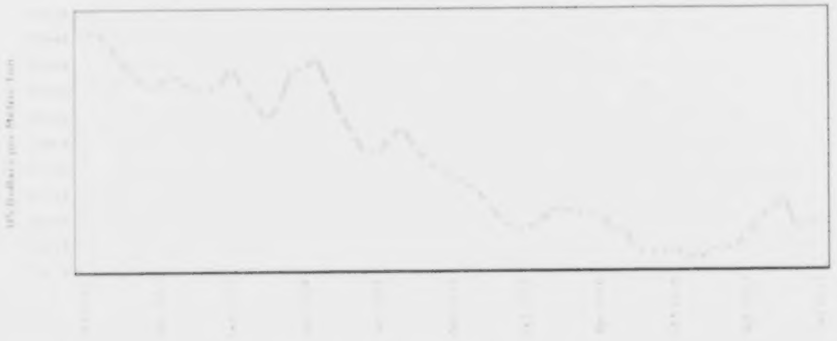
2. Challenges facing the import of goods

149. The situation in Yemen would have been far worse were it not for the fact that the outlook for the international trade in food products has been favourable to importers. The current cost of food commodities and shipping from suppliers remains low compared to the pre-conflict period (see example in table 3), although some additional shipping costs are incurred for the final leg of the journey into Yemeni ports due to delays at sea and demurrage at the ports.[169]

Table 3

Cost of wheat (No.1 Hard Red Winter): 2012–2017[a]

(In United States dollars per ton)



[a] *Source*: United States Department of Agriculture, Market News (see http://www.indexmundi.com/commodities/?commodity=wheat&months=60).

150. Delays, diversions and seizures of cargo of commercial vessels by the Saudi Arabia-led coalition during inspections have contributed to significant financial losses for ship owners and traders. The cost of these delays to owners and shippers, which can reach $30,000 per day, have gradually eroded their credibility with their international trading partners (suppliers, insurers and freighters). Details of the case study on the confiscation of the Liberia-flagged tanker, MV *Androussa*, on 4 April 2017, while it was proceeding to Ra's Isa, are given in confidential annex 55. The Panel visited the tanker in Yanbu, on 25 December 2017, with Saudi Arabian officials. The Panel and the officials of Saudi Arabia were shown some steel pipes next to a workshop that the officials considered to be suspicious, but which the Panel estimated were most probably for the vessel's maintenance. Saudi Arabia has not yet submitted an inspection report, which is required within 30 days under paragraph 17 of resolution 2216 (2015).[170] The case illustrates the loss for traders and shipping companies operating in Yemen.[171] One trader has seen three planned cargo deliveries for the remainder of 2017 cancelled owing to the risk posed by the conflict (figure XVI).

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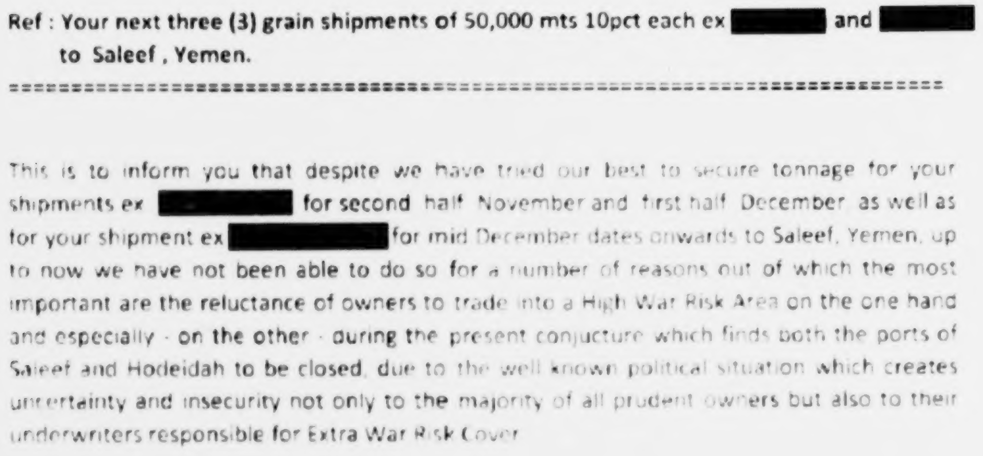
[169] Houthi ministry of transport and trade (see http://www.moit.gov.ye/moit/sites/default/files/%20%D8%A7%D9%84%D8%AA%D8%A7%D9%84%D8%AE%D9%85%D9%86%D8%A3%D9%87%D8%AA%D9%88%D8%A8%D8%A1.pdf).

[170] UNVIM submitted an interim Member State monitoring report on 12 May 2017, covering the inspection in Jeddah, between 8 and 16 April 2017, as well as subsequent inspections in Yanbu port between 17 April and 11 May 2017. The report concluded that no prohibited items were found on board the vessel, but that the inspection team had discovered a series of inconsistencies, irregularities and misdeclarations as well as traces of high explosives in ballast tanks 3, 4 and 6.

[171] The tanker, and its cargo of 41,500 tons of gas oil worth more than $23 million, was subsequently formally confiscated on 14 September 2017 (see https://www.mpr.gov.sa/articles/[illegible]).

Figure XVI

Extract from a cancellation letter received by an importer[a]



Ref : Your next three (3) grain shipments of 50,000 mts 10pct each ex [redacted] and [redacted] to Saleef , Yemen.

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This is to inform you that despite we have tried our best to secure tonnage for your shipments ex [redacted] **for second** half November and first half December as well as for your shipment ex [redacted] for mid December dates onwards to Saleef, Yemen, up to now we have not been able to do so for a number of reasons out of which the most important are the reluctance of owners to trade into a High War Risk Area on the one hand and especially - on the other - during the present conjucture which finds both the ports of Saleef and Hodeidah to be closed, due to the well known political situation which creates uncertainty and insecurity not only to the majority of all prudent owners but also to their underwriters responsible for Extra War Risk Cover

[a] *Confidential source*: Importer.

VI. Assets freeze

151. Pursuant to paragraphs 11 and 21 (b) of resolution 2140 (2014), as extended by paragraph 5 of resolution 2342 (2017), the Panel has continued to gather, examine and analyse information regarding the implementation by Member States of assets freeze measures. The Panel has continued to focus on the five listed individuals and on identifying and investigating other individuals and entities that may be acting on their behalf or at their direction and entities owned or controlled by them.

152. Since the death of Ali Abdullah Saleh, the resultant inherited wealth will no longer be within the scope of the Panel's mandate unless: (a) those funds are made available to Ahmed Ali Abdullah Saleh or any other individual acting on the latter's behalf, including Khaled Ali Abdullah Saleh; or (b) Houthi fighters, acting on behalf of the three Houthi listed individuals, seize Saleh assets. The Panel has sent letters to the Government of Yemen and Ahmed Ali Abdullah Saleh requesting official documentation that certifies the death of Ali Abdullah Saleh in order to allow the Committee to update the list. The Panel met with Ahmed Ali Abdullah Saleh in Abu Dhabi on 27 December 2017. He indicated that he had not yet received confirmed information as to where his father was buried, that members of his family are still being held by the Houthis in Yemen and that members of his family have been dispossessed by the Houthis. He complained that his listing was unjust as he has never been and is not involved in any act that threatens the peace, security or stability of Yemen.

153. The status of the estimated assets owned by listed individuals of the Saleh family and individual entities acting on their behalf traced by the Panel are shown in table 4 below.

Table 4

Estimated assets owned by the Saleh family that meet the assets freeze criteria[a]

(Estimated in United States dollars)

Country	*Identified*	*Frozen*	*Status*	*Remarks*
France	11 350 000		To be confirmed	2 apartments owned by Ahmed Ali Abdullah Saleh
Malaysia		780 000	Frozen	Owned by Ahmed Ali Abdullah Saleh (balance in 2016)
Netherlands		To be confirmed	Frozen	Acting on behalf of Ahmed Ali Abdullah Saleh (asset is in France)
Oman		25 818 000	Frozen	Transferred by Ahmed Ali Abdullah Saleh from an account in Yemen in 2012
Singapore		460 000		Securities owned by Ahmed Ali Abdullah Saleh
Switzerland		4 431 000	Frozen	Owned by Ali Abdullah Saleh
United Arab Emirates		166 000	Frozen	Owned by Ahmed Ali Abdullah Saleh
United Arab Emirates	55 000 000		To be confirmed	Owned by Ali Abdullah Saleh, and transferred in June 2011
United Arab Emirates	51 720 000		To be confirmed	Transferred by Trice Bloom Ltd. and Towkay Ltd. from Bank of New York Mellon Corporation in 2014 from an initial inward transfer of 71 493 448
United Arab Emirates	33 472 000			Transferred by PACE Trust, Ali Abdullah Saleh, (October 2014)
United Arab Emirates	58 140 000			Transferred by Wildhorse Investments, Ali Abdullah Saleh (October 2014)
United Arab Emirates	3 024 000			Transferred by Ansan Wikfs Investments Limited, a company owned by Shaher Abdulhak **Total in the United Arab Emirates: 198 332 000**
United Kingdom		3 700 000	Frozen	Owned by Ahmed Ali Abdullah Saleh. Panel notified by United Kingdom authorities to the Civil Forum for Asset Recovery in 2017.[a] This asset is in a United Kingdom-registered bank, but in an account in another European country
United States of America	90 000 000[b]	To be determined		Transferred from or through banks in the United States to banks in the United Arab Emirates for the benefit of Khaled Ali Abdullah Saleh between August 2013 and December 2014
Subtotals	**191 036 000**	**35 355 000**		
Grand total	**226 391 000**			

[a] Managed by Khaled Ali Abdullah Saleh.

[b] Part of this amount is included in funds traced in the United Arab Emirates. Once details are confirmed, reconciliation of funds can take place between United States and United Arab Emirates data.

154. The Panel is investigating assets seizures by the Houthis for their benefit. An order was issued on 23 December 2017 to the Sana'a based Central Bank of Yemen by "the committee for identification and seizure of assets owned by traitors" to seize all bank accounts owned by 1,223 individuals (see annex 56).

155. The Panel shared information on bank accounts and account transfers in relation to listed individuals with five Member States and awaits their replies. This lack of information on already frozen assets constrains the Panel from tracing further financial assets. In 2017, no information on the freezing of assets was submitted to

the Committee or Panel, while one notification of an intent to unfreeze was submitted to the Committee.

Khaled Ali Abdullah Saleh

156. In its report dated 31 January 2017[172] the Panel identified Khaled Ali Abdullah Saleh[173] as a financier acting on behalf and/or at the direction of his father, Ali Abdullah Saleh, and his brother, Ahmed Ali Abdullah Saleh. The Panel is investigating potential funds that could be made available by Khaled Ali Abdullah Saleh for the benefit of listed individuals from transfers and investments equalling $20.9 million made by Raydan Investments Limited in the United Arab Emirates (see annex 57).

157. The Panel has received a bank statement related to a credit card (4XXXXXXXXXXX3455) owned by Khaled Ali Abdullah Saleh, who has used two passports from a Member State. The bank statement confirms that he travelled during late 2016 and early 2017 to Munich, Germany, Budapest, Prague, Vienna and Zurich, Switzerland. The Panel noted that he sought the services of Keyana Management Consulting in Munich.[174] The card was also used to support personal PayPal purchases of potential weapons and specialized equipment prohibited by the targeted arms embargo on Yemen on 26 December 2016 (http://www.nashq.com/) and 18 January 2017 (https://www.dmhq-shop.de/). He continues to manage the Saleh family assets in such a way so as to circumvent the asset freeze and targeted arms embargo sanctions measures.

VII. Travel ban

158. Pursuant to paragraph 15 of resolution 2140 (2014), the Panel continues to focus on a range of monitoring and investigative activities in order to identify whether the individuals designated by the Committee and Security Council have violated the travel ban. No violations have been identified.

VIII. Acts that violate international humanitarian law and human rights law

159. In paragraph 9 of resolution 2140 (2014), the Security Council called upon all parties to comply with their obligations under international law, including applicable international humanitarian law and human rights law. In paragraphs 17, 18 and 21 of that resolution and in paragraph 19 of resolution 2216 (2015), the Council further clarified the Panel's responsibilities with regard to investigations of violations of international humanitarian law and international human rights law and human rights abuses, including investigation into obstructions to the delivery of humanitarian assistance.

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[172] S/2017/81, sect. VI, paras. 42-44.

[173] Born 2 August 1987.

[174] See http://www.keyana-consulting.com/; the company, based in Munich, offers financial investment services.

A. Incidents attributed to the Saudi Arabia-led coalition

1. Air strikes

160. During the reporting period, the Panel investigated 10 air strikes[175] that led to at least 157 fatalities and 135 injuries, including at least 85 children. The strikes also destroyed five residential buildings, two civilian vessels, a market, a motel and a Government of Yemen forces location (see table 5). Detailed case studies of the first four incidents, which include assessments of compliance with international humanitarian law, are contained in annex 58.

Table 5
Air strikes: 2017

Appendix in annex 58	*Date*	*Location*	*Incident and target*	*Type of ordnance*	*Civilian casualties*
A	16 March	Red Sea	Migrant boat	Small arms ammunition	42 dead 34 injured
B	25 Aug.	Sana'a	Residential building	High explosive aircraft bomb	16 dead 17 injured
C	2 Sept.	Hajjah	Residential building	High explosive aircraft bomb	3 dead 13 injured
D	1 Nov.	Sa'dah	Night market	High explosive aircraft bomb fitted with "Paveway" guidance unit	31 dead 26 injured
E	9 June	Sana'a	Residential building	Mark 82 or 84 high explosive aircraft bomb with "Paveway" guidance unit	4 dead 8 injured
F	4 Aug.	Sa'dah	Residential building	Mark 84 high explosive aircraft bomb	9 dead 3 injured
G	23 Aug.	Arhab	Motel	Mark 82 or 84 high explosive aircraft bomb with "Paveway" guidance unit	33 dead 25 injured
H	16 Sept.	Ma'rib	Vehicle	High explosive aircraft bomb or air-to-ground missile	12 dead
I	10 Nov.	Sa'dah	Residential building	Mark 82 or 84 high explosive aircraft bomb with "Paveway" guidance unit	4 dead 4 injured
J	14 Nov.	Ta'izz	Government forces	Mark 82 or 84 high explosive aircraft bomb with "Paveway" guidance unit	3 dead 5 injured

161. In the 10 incidents investigated the Panel finds that:

(a) The use of precision-guided weapons is a strong indicator that the intended targets were those affected by the air strikes;

(b) In all cases investigated, there was no evidence that the civilians in, or near this infrastructure, who are prima facie immune from attack, had lost their civilian protection;

(c) Even if in some of the cases listed in table 5, the Saudi Arabia-led coalition had targeted legitimate military objectives, the Panel finds that it is highly unlikely that the principles of international humanitarian law of proportionality and precautions in attack were respected;

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[175] These and other incidents referred to in this section were selected because the available evidence met the standards set out in annex 1, appendix B.

(d) The cumulative effect on civilians and the civilian infrastructure demonstrates that even if precautionary measures were taken, they were largely inadequate and ineffective.

162. On the individual case studies, the Panel finds that:

(a) Except for incident A, the only military entity capable of carrying out these airstrikes was the Saudi Arabia-led coalition. In incident A, it is highly unlikely that an entity other than a member State in the Saudi Arabia-led coalition could have carried out the attack;

(b) Except for incidents B and D, the Saudi Arabia-led coalition has not acknowledged its involvement in any of the attacks, nor clarified, in the public domain, the military objective it sought to achieve. In incidents B and D, the Panel is unable to concur with the justifications provided by the Saudi Arabia-led coalition (see annex 58);[176]

(c) Measures taken by the Saudi Arabia-led coalition in its targeting process to minimize child casualties, if any, remain largely ineffective,[177] especially when it continues to target residential buildings.

163. The Panel requested information throughout 2017 from the Saudi Arabia-led coalition in reference to the rationale that the coalition had applied in order to justify the collateral damage to civilians and civilian infrastructure identified by the Panel. The response received contained no verifiable information. In the case of the air strikes listed in table 5, the Panel's independent investigations could not find any evidence of the presence of high value targets that would justify the collateral damage at these target sites. In another incident, in which the Saudi Arabia-led coalition admitted to killing a high value target in a strike on an alleged training camp, which then turned out to be a school, the Joint Incident Assessment Team later denied that a strike by the Saudi Arabia-led coalition had taken place (see annex 59).

164. The Panel also identified two cases (see table 6) where the Joint Incident Assessment Team found that the Saudi Arabia-led coalition did not conduct strikes, but the Panel's independent investigations found clear evidence of air strikes. The Panel thus concluded that the only entity capable of carrying out these two attacks was the Saudi Arabia-led coalition (details are provided in annex 60).

Table 6

Findings of the Joint Incident Assessment Team and conclusions of the Panel

Date	*Incident*	*Joint Incident Assessment Team*	*Panel conclusions*
9 Aug. 2016	Sana'a food factory	Saudi Arabia-led coalition did not carry out an air strike on the location	High explosive aircraft bomb used Saudi Arabia-led coalition is responsible
24 Sept. 2016	Ibb residential complex	Saudi Arabia-led coalition did not carry out an air strike on the location	Mark 82 high explosive aircraft bomb with "Paveway" guidance unit used Saudi Arabia-led coalition is responsible

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[176] Statement of the official spokesman of the official Saudi Arabia-led coalition.

[177] See S/2017/821, para. 200, for information on measures reportedly taken by the Saudi Arabia-led coalition to reduce child casualties.

165. Those individuals responsible for planning, authorizing and/or executing air strikes that disproportionately affect civilians and civilian infrastructure are likely to fall under the designation criteria contained in paragraphs 17 and 18 of resolution 2140 (2014). The Panel continues to investigate this issue.

2. Ground operations: detentions by the United Arab Emirates

166. In 2017, the Panel investigated 12 instances of individuals deprived of their liberty being held in detention facilities at the United Arab Emirates base in Burayqah, at Al Rayyan airport and in the port of Balhaf (see confidential annex 61 and annex 62). The Panel finds that:

(a) The forces of the United Arab Emirates in Yemen detained individuals in least three places of detention in Yemen, which were administered and supervised exclusively by the United Arab Emirates;

(b) The Government of Yemen had no authority over individuals detained in the bases administered by the United Arab Emirates;

(c) The forces of the United Arab Emirates engaged in, or supervised, joint arrest operations with the Hadrami and Shabwani Elite Forces;

(d) The forces of the United Arab Emirates have engaged with Yemeni security forces in regular detainee transfers;

(e) The forces of the United Arab Emirates were responsible for: (i) torture (including beatings, electrocution, constrained suspension and imprisonment in a metal cell ('the cage') in the sun); (ii) ill treatment; (iii) denial of timely medical treatment; (iv) denial of due process rights; and (v) enforced disappearance of detainees, in violation of international humanitarian law and international human rights law.[178]

167. The Panel estimates that the total number of detainees[179] in the custody of the forces of the United Arab Emirates in Yemen, as at 1 November 2017, was over 200.

168. The Panel requested, but did not receive, either from the United Arab Emirates or Yemen, the relevant legal authority under which the United Arab Emirates, as a foreign force, was authorized to engage in the arrest and the deprivation of liberty of individuals in Yemen. Instead, the representatives of the United Arab Emirates denied that the country supervises or administers detention facilities in Yemen.[180]

169. The widespread and systematic nature of the arbitrary arrest, deprivation of liberty and enforced disappearance of individuals by the United Arab Emirates in Yemen demonstrates a pattern of behaviour that is clearly inconsistent with the country's obligations under international humanitarian law and international human rights law. At the same time, the continued denial of the role of the United Arab Emirates in arbitrary arrests and detentions contributes to violations occurring with impunity by both United Arab Emirates forces and its Yemeni proxies. This denial offers them protection and the ability to operate without any foreseeable consequences.

170. For the United Arab Emirates, working with Government of Yemen security forces provides plausible deniability for violations,[181] while also providing a veneer

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[178] A legal assessment of the situation is given in annex 62. Information provided by detainees was verified through medical reports, testimonies of other detainees and their families and/or satellite imagery, in accordance with Panel methodology.

[179] The term detainees in this report refers to individuals deprived of their liberty, including internees.

[180] Letter from the United Arab Emirates to the Panel dated 8 November 2017.

[181] Ibid.

of legitimacy and authority for the arbitrary arrests and consequent detentions undertaken on their behalf.

171. Both Governments refuse to conduct credible investigations into such abuses or to act against the perpetrators. The United Arab Emirates is in Yemen with the consent of the legitimate Government, which has full authority to revoke, limit or to clarify the boundaries of its consent, in order to further the compliance of the forces of the United Arab Emirates with international humanitarian and international human rights law. The Government of Yemen has also failed to assert effective command and control over its own forces in this regard (see para. 54 above).

172. The Panel finds that those responsible for detention-related abuses in Yemen fall within the designation criteria under paragraph 17 and/or paragraph 18 of resolution 2140 (2014).

B. Houthi and Saleh forces: violations associated with the deprivation of liberty

173. The Panel investigated 16 cases of arbitrary arrest and the deprivation of liberty and other violations of international humanitarian law and human rights norms committed by Houthi-Saleh forces. Eleven individuals were identified who either committed or held command responsibility for the violations.[182] These violations were committed by officials of the Sana'a-based political security organization (3), the Sana'a-based national security bureau (3) and other Houthi authorities (10). In the national security bureau, Motlaq Amer al-Marrani (also known as Abu Emad), deputy head of the national security bureau, was involved in all violations investigated by the Panel.

174. These violations by the members of the Sana'a-based political security organization and the Sana'a-based national security bureau and by other Houthi authorities involved: arbitrary arrest and deprivation of liberty; torture, (including of a child); denial of timely medical assistance; prolonged enforced disappearances; lack of due process; and three deaths in custody.

175. During the course of the past year, the Panel has observed that some individuals within the detaining authorities are now profiting from detentions. The Panel identified the release of one detainee after his family paid 1,000,000 rials ($4,000) to officials of the Sana'a-based political security organization.

176. The Panel investigated the detention of individuals in the Dhammar Community College, an informal place of detention.[183] One of the major reasons for the continued detention of individuals in this prison is the inability of the leaders of the Houthi-Saleh forces and the leaders of the "resistance" forces to agree on a local prisoner exchange. Some detainees were informed that they would be released either: (a) upon payment of a ransom; or (b) during an exchange. Any detention of civilians, solely as leverage for future prisoner exchanges, is hostage taking, which is prohibited under international humanitarian law.[184]

Violations by Houthi authorities after 1 December 2017

177. The Panel initiated investigations into the arbitrary arrest, deprivation of liberty and extrajudicial execution of affiliates of the General People's Congress, including

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[182] A legal assessment is provided in confidential annex 63.

[183] The total number of detainees in the facility vary from 25 to 100.

[184] Customary international humanitarian law rule 96 on hostage-taking (see https://ihl-databases.icrc.org/customary-ihl/eng/docs/v2_rul_rule96). Under the terms of international humanitarian law, civilians are to be detained only if they pose an imminent security threat and then, only for as long as that threat is existent.

incitement of violence against them. A significant deprivation of liberty took place on 2 December 2017 when 41 local journalists were arbitrarily detained.[185]

C. Indiscriminate use of explosive ordnance against civilian populated areas

178. The Panel investigated 10 incidents of the indiscriminate use of explosive ordnance in densely populated areas such as Ta'izz, which, together, resulted in 23 civilian deaths (see table 7). The Panel finds that in these cases, there was almost certainly an indiscriminate use of explosive ordnance. Detailed case studies of three of the incidents, which include assessments of compliance with international humanitarian law, are provided in annex 64. The responsibility for all case studies, except for case study C in table 7, is attributed to the Houthi-Saleh forces.[186]

Table 7

Summary of the indiscriminate use of explosive ordnance in civilian populated areas: 2017

Date	*Location*	*Incident and target*	*Type of explosive ordnance*	*Civilian casualties*	*Appendix to annex 64*
18 Jan.	Nur, Ta'izz	Residential area	120 mm high explosive mortar bomb	9 dead 8 injured	E
21 May	Jahmila, Ta'izz	Residential area	High explosive ordnance (to be confirmed)	2 dead	F
21 May	Thabat, Ta'izz	Residential area	High explosive ordnance (to be confirmed)	3 dead 3 injured	G
21 May	Humayrah, Ta'izz	Commercial area	High explosive ordnance (to be confirmed)	2 dead 5 injured	H
29 May	Nur, Ta'izz	Residential area	120mm high explosive mortar bomb	1 dead 7 injured	A
30 June	Jumhuri, Ta'izz	Residential area	106 mm recoilless rifle	1 dead 9 injured	I
6 Sept.	Rawdah, Ma'rib	Residential area	120mm high explosive mortar bomb	3 injured	B
21 Sept.	Sinah, Tai'zz	Residential area	Rocket-propelled grenade-7 variant	0	J
2 Nov.	Onsowa, Ta'izz	Residential area	120mm high explosive mortar bomb	5 dead	D
11 Nov.	Riyadh	Civilian airport	Short-range ballistic missile	0	C

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[185] See https://rsf.org/en/news/houthis-holding-41-journalists-hostage-inside-yemeni-tv-station.

[186] In the 2 November 2017 mortar attack, technical analysis demonstrates that the mortar base plate was in an area under the control of Abu al-Abbas.

179. The indiscriminate use of explosive ordnance against civilian locations in Yemen and Saudi Arabia committed by the Houthi-Saleh forces falls within paragraph 17 and/or paragraph 18 of resolution 2140 (2014). The Panel finds that the continued use of such weapons could not happen unless sanctioned as a policy by the high-level Houthi leadership, including Abdulmalik al-Houthi personally.

D. Violations by the Government of Yemen

180. The Panel investigated violations of international humanitarian law and international human rights law relating to arbitrary arrest and detention, enforced disappearance, torture, ill-treatment and denial of timely medical assistance for 21 individuals. These individuals were in the custody of or in locations controlled by the Security Belt Forces in Aden and Lahij; the Special Forces in Ma'rib; the Hadrami and Shabwani Elite Forces; Major General Shallal Ali Shaye;[187] Brigadier General Ali Abdullah Taher;[188] Ghassan al-Aqrabi;[189] Colonel Abu Mohammad Abdul Ghani Shaalan;[190] and Imam al-Nubi.[191] Further information on such violations is provided in annex 65 and confidential annex 66. Nine deaths also occurred in custody, including that of three children.

181. Some officials maintained extrajudicial detention sites. In Aden, this included a house under the control of Major General Shallal Ali Shaye in At-Tawahi, formerly the Waddah nightclub. Bir Ahmed I was an extrajudicial detention site administered by Ghassan al Aqrabi, who is affiliated with the Security Belt Forces and United Arab Emirates forces. On 12 November 2017, the United Arab Emirates moved detainees to Bir Ahmed II. On 13 November 2017, the Attorney General of Yemen received the case files of the detainees. In early December 2017, following his intervention, some detainees had family visits in Bir Ahmed II and some were released.

182. Also in November 2017, 133 detainees were reportedly transferred from Al Rayyan airport to Mukalla Central Prison,[192] although there is inadequate information to conclude that all detainees who were in Al Rayyan were transferred, as some families still have not been able to gain access to their relatives who were detained in Al Rayyan.

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[187] Director of General Security, Aden. The detention-related abuses investigated occurred at a house in At-Tawahi under his control.

[188] Former Security Director, Ma'rib (see https://yemensaeed.net/news.php?id=61163).

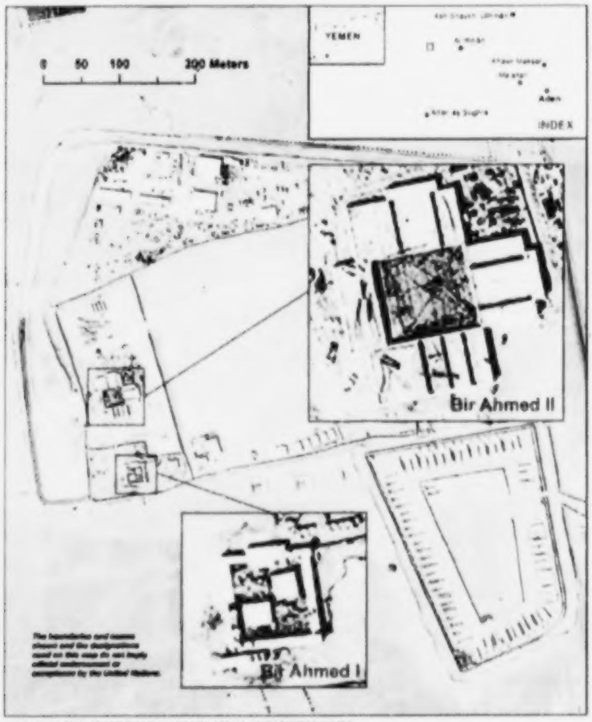
[189] Supervisor of Bir Ahmed I and II.

[190] Special Forces Commander, Ma'rib. Colonel Shallan was present and in control of his troops when a child was killed.

[191] Former Commander of Camp 20, Aden.

[192] See http://www.chicagotribune.com/sns-bc-ml--yemen-prisoners-20171113-story.html.

Figure XVII
Bir Ahmed I and Bir Ahmed II



E. Attacks inside hospitals

183. The Panel investigated two incidents, in which two seriously ill patients were assassinated inside the Revolution Hospital on 24 March 2017 and 13 December 2017 (see confidential annex 67).

184. In Sana'a, following the death of Ali Abdullah Saleh, the Panel is investigating incidents in which injured persons were killed inside hospitals. Wounded, sick and out of action personnel are protected under international humanitarian law.[191]

F. Recruitment and use of children in armed conflict

185. The Panel investigated individuals and networks operating in Yemen that engage in child recruitment. The Panel has identified two individuals who recruited a total of five children on behalf of Houthi forces (see annex 68 and confidential annex 69). The Panel finds, based on their analysis over the past year, that these cases are representative of a much larger problem.

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[191] See common article 3 to the Geneva Conventions of 1949 and article 7(1) of the Protocol Additional to the Geneva Conventions relating to the Protection of Victims of Non-International Armed Conflicts (Protocol II).

186. The Panel finds that the following also contributes to the increase in the recruitment of children:

(a) The non-payment of salaries results in children being compelled to search for economic alternatives on behalf of their families. Houthi-Saleh forces paid newly recruited children approximately 15,000 to 20,000 rials per month ($60 to $80);

(b) The disruption to education means that children often have little to do, thus making them vulnerable to street level recruitment;

(c) As families continue to live in areas controlled by the Houthi-Saleh forces, they are afraid to speak out against such recruitment, thus allowing it to continue unchallenged;

(d) For parents with financial means, the airport closure and visa restrictions mean that they cannot send or take their children out of the country for their own protection.

IX. Obstruction of humanitarian assistance

187. Pursuant to paragraph 19 of resolution 2216 (2015), the Panel continues to investigate the obstruction of the delivery of humanitarian assistance to Yemen or access to, or distribution of, humanitarian assistance in Yemen.

A. Obstruction of deliveries of humanitarian assistance

188. The Saudi Arabia-led coalition continued to obstruct the entry of humanitarian and commercial goods to Yemen by: (a) continuing the blockade on the Sana'a airport to commercial flights (see annex 70); (b) imposing gradual restrictions on civilian items entering Yemen through the Red Sea ports (see confidential annex 71) and (c) through severe restrictions on the imports of commercial and humanitarian goods from 6 to 23 November 2017. During the latter period, over 750,000 tons of commercial and humanitarian goods were diverted from Yemen or their entry to the country delayed.[194]

189. The imposition of more access restrictions on 6 November 2017 was another attempt by the Saudi Arabia-led coalition to use paragraph 14 of resolution 2216 (2015) as justification for obstructing entry of commodities into Yemen that are essentially civilian in nature. Obstructing the entry into Yemen of many of the commodities listed in confidential annex 71 is contrary to the spirit of resolution 2216 (2015).

190. The blockade is essentially using the threat of starvation as a bargaining tool and an instrument of war. The Houthi forces are also using the population as a pawn when they escalate their strikes against Saudi Arabia, knowing full well the brunt of reprisals will be felt by the civilian population. The Houthis are relying on public condemnation of Saudi Arabia's reprisals to offset any liability on their part for those actions.

191. The continued non-reporting in 2017 by Member States of inspections undertaken in their territory means that they are in non-compliance with paragraph 17 of resolution 2216 (2015). This undermines the monitoring responsibilities of the Committee as envisaged in paragraph 17 of resolution 2216 (2015) and undermines

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[194] Information from UNVIM and Logistics Cluster data.

the safeguards placed to ensure that the sanctions regime is not misused to achieve unilateral objectives.

B. Obstruction to the distribution of humanitarian assistance

192. In 2017, Houthi-Saleh forces continued to obstruct the distribution of humanitarian assistance and prevented humanitarian access.[189] The Panel investigated obstructions, which included: (a) aid diversion; (b) delays or refusals that affect timely distribution; (c) arrests, detentions, intimidation and torture of humanitarian staff and confiscation of equipment; (d) interference in the selection of beneficiaries, areas of operation and implementing partners; (e) declaration of areas as military zones, making them inaccessible to humanitarians; (f) extortion and demands for payment under threats of violence; (g) obstruction of the delivery of cholera response material; (h) issues relating to customs clearance; and (i) delays in clearing the importation of medicine from Sana'a International Airport. These obstacles are compounded by the non-payment of public sector salaries and visa restrictions for humanitarian workers.

193. The Panel also investigated obstructions to humanitarian access by the executive unit (in Ta'izz, Hajjah and Hudaydah), the Sana'a-based ministries of education and health, and the Sana'a-based national security bureau. Some of these actors are militarizing the distribution of aid. The Panel finds that Motlaq Amer al-Marrani (also known as Abu Emad), the deputy head of the Sana'a-based national security bureau was also responsible for the arbitrary arrest, detention and ill treatment of humanitarian workers and other authorities working on humanitarian assistance. He has also unduly used his authority and influence over humanitarian access as a leverage to generate profit.

194. At the request of humanitarian stakeholders, the confidential information and analysis relating to this section is provided in confidential annex 72.

X. Recommendations

195. The Panel recommends that the Security Council:

(a) Consider including in its resolution or presidential statement a call on the member States of the Saudi Arabia-led coalition not to misuse resolution 2216 (2015) as a justification to obstruct the delivery of essential goods and humanitarian aid by air or sea;

(b) As a confidence-building measure, consider authorizing the deployment of a neutral naval vessel to the sea approaches and entrance of Hudaydah port, under the auspices of UNVIM, thus increasing discharge rates and ensuring a neutral inspection and monitoring presence during commercial vessel discharges in Houthi-controlled territory;

(c) Consider including in its resolution language specifying that the components used for the manufacture of military equipment may fall within the scope of the targeted arms embargo;

(d) Consider commissioning an ad hoc report from the Committee, with assistance from its Panel of Experts, and working with other relevant United Nations bodies, including the Office for Disarmament Affairs, and in consultation with international and regional organizations and entities, to examine the use and impact of commercially available unmanned aerial vehicles in conflict zones for military purposes, and to make recommendations on appropriate counter-measures to their transfer and use.

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[189] Source: international and national non-governmental organization sources.

196. The Panel recommends that the Committee:

(a) Consider engaging with the International Maritime Organization (IMO),[illegible] with a view to recommending that it liaise with the industry shipping group responsible for the publication *Best Management Practices for Protection against Somalia Based Piracy* (BMP4) to ensure that the protection measures set out in the publication are still appropriate for addressing the new threats that have emerged in the Red Sea area;

(b) Consider engaging with the Combined Maritime Forces to encourage them to cooperate with the Panel in accordance with paragraph 10 of resolution 2317 (2016) and paragraph 8 of resolution 2342 (2017), and to respond to Panel's requests for information.

(c) Consider reminding Member Sates of their obligation under paragraph 11 of resolution 2140 (2014) to freeze without delay all funds, other financial assets and economic resources on their territories that are owned or controlled, directly or indirectly, by individuals or entities acting on behalf or at their direction of listed individuals, or by entities owned or controlled by them, in particular the United Arab Emirates with regard to Khaled Ali Abdullah Saleh and the assets he manages that are identified herein and in the report of the Committee dated 31 January 2017 (S/2017/81);

(d) Consider engaging with the United Nations Educational, Scientific and Cultural Organization, encouraging it to issue a communique informing international auctioneers and museums that the export and sale of Yemeni artefacts is illegal and that measures should be taken to ensure that funding raised from transactions relating to Yemen's cultural heritage will not be used to finance armed groups.

(e) Consider encouraging the Government of Yemen to establish mechanisms with international financial institutions and the Saudi Arabia-led coalition to allow those Yemeni banks with effective anti-money-laundering measures to transfer hard currency outside of Yemen in order to raise the letters of credits necessary to support imports.

(f) Consider engaging with the Office of the Secretary-General to examine the development and institution, within UNVIM, of a complaints mechanism for shippers and freight forwarders, to be made available through the UNVIM website.

[illegible] See http://www.imo.org.

Annex 1: Methodology

1. The Panel used satellite imagery of areas of Yemen procured by the United Nations from private providers to support its investigations. It also used commercial databases recording maritime and aviation data and mobile phone records. Public statements by officials through their official media channels were accepted as factual unless contrary facts were established. While the Panel strived to be as transparent as possible, in situations in which identifying sources would have exposed them or others to unacceptable personal security risks, the Panel decided not to include identifying information in the present report and instead placed the relevant evidence in United Nations archives.

2. The Panel reviewed social media, but no information gathered was used as evidence unless it could be corroborated using multiple independent or technical sources, including eyewitnesses, to appropriately meet the highest achievable standard of proof.

3. The spelling of toponyms within Yemen often depends on the ethnicity of the source or the quality of transliteration. The Panel has adopted a consistent approach in the present report.

4. The Panel has placed importance on the rule of consensus among the Panel members and agreed that, if differences and/or reservations arise during the development of the report, it would only adopt the text, conclusions and recommendations by a majority of four out of the five members. In the event of a recommendation for designation of an individual or a group, such recommendation would be done on the basis of unanimity.

5. The Panel has offered the opportunity to reply to Member States, entities and individuals involved in the majority of incidents that are covered in this report. Their response has been taken into consideration in the Panel's findings. The methodology for this is provided in appendix A.

Appendix A to Annex 1: 'The opportunity to reply' methodology used by the Panel

1. Although sanctions are meant to be preventative not punitive, it should be recognized that the mere naming of an individual or entity[1] in a Panel's report, could have adverse effects on the individual. As such, where possible, individuals concerned should be provided with an opportunity to provide their account of events and to provide concrete and specific information material in support of their narrative. Through this interaction, the individual is given the opportunity to demonstrate that their alleged conduct does not fall within the relevant listing criteria. This is called the 'opportunity to reply'.

2. The Panel's methodology on the opportunity to reply is as follows:

(a) Providing an individual with an 'opportunity to reply' should be the norm;

(b) The Panel may decide not to offer an opportunity of reply if there is credible evidence that it would unduly prejudice its investigations, including if it would:

(i) Result in the individual moving assets if they get warning of a possible recommendation for designation;

(ii) Restrict further access of the Panel to vital sources;

(iii) Endanger Panel sources or Panel members;

(iv) Adversely and gravely impact humanitarian access for humanitarian actors in the field; or

(v) For any other reason that can be clearly demonstrated as reasonable and justifiable in the prevailing circumstances.

3. If the circumstances set forth in 2 (b) do not apply, then the Panel should be able to provide an individual an opportunity to reply.

4. The individual should be able to communicate directly with the Panel to convey their personal determination as to the level and nature of their interaction with the Panel.

5. Interactions between the Panel and the individual should be direct, unless in exceptional circumstances.

6. In no circumstances can third parties, without the knowledge of the individual, determine for the individual its level of interaction with the Panel.

7. The individual, on the other hand, in making their determination of the level and nature of interaction with the Panel, may consult third parties or allow third parties (for example, legal representative or his government) to communicate on his/her behalf on subsequent interactions with the Panel.

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[1] Hereinafter just the term individual will be used to reflect both.

Appendix B to Annex 1: Violations relating to IHL, IHRL, and acts that constitute human rights abuses investigative methodology

1. The Panel adopted the following stringent methodology to ensure that its investigations met the highest possible evidentiary standards, despite it being prevented from visiting places in Yemen other than Aden. In doing so it has paid particular attention to the "Informal Working Group on General Issues of Sanctions Reports", S/2006/997, on best practices and methods, including paragraphs 21, 22 and 23, as requested by paragraph 11 of resolution 2342 (2017).

2. The Panel's methodology in relation to its investigations concerning IHL, IHRL and human rights abuses is set out as below:

(a) All Panel investigations are initiated based on verifiable information being made available to the Panel, either directly from sources or from media reports.

(b) In carrying out its investigations on the use of explosive ordnance, the Panel relies on at least three or more of the following sources of information:

(i) At least two eye-witnesses or victims;

(ii) At least one individual or organization (either local or international) that has also independently investigated the incident;

(iii) If there are casualties associated with the incident, and if the casualties are less than ten in number, the Panel obtains copies of death certificates and medical certificates. In incidents relating to mass casualties, the Panel relies on published information from the United Nations and other organizations;

(iv) Technical evidence, which includes imagery of explosive events such as the impact damage, blast effects, and recovered fragmentation. In all cases, the Panel collects imagery from at least two different and unrelated sources. In the rare cases where the Panel has had to rely on open source imagery, the Panel verifies that imagery by referring it to eyewitnesses or by checking for pixilation distortion;

a. In relation to air strikes, the Panel often identifies the responsible party through crater analysis or by the identification of components from imagery of fragmentation; and

b. The Panel also analyses imagery of the ground splatter pattern at the point of impact from mortar, artillery, or free flight rocket fire to identify the direction from which the incoming ordnance originated. This is one indicator to assist in the identification of the perpetrator for ground fire when combined with other source information.

(v) The utilisation of open source or purchased satellite imagery wherever possible, to identify the exact location of an incident, and to support analysis of the type and extent of destruction. Such imagery may also assist in the confirmation of timelines of the incident;

(vi) Access to investigation reports and other documentation of local and international organizations that have independently investigated the incident;

(vii) Other documentation that supports the narrative of sources, for example, factory manuals that may prove that the said factory is technically incapable of producing weapons of the type it is alleged to have produced;

(viii) In rare instances where the Panel has doubt as to the veracity of available facts from other sources, local sources are relied on to collect specific and verifiable information from the ground. (For example, if the Panel wished to confirm the presence of an armed group in a particular area).

(ix) Statements issued by or on behalf of a party to the conflict responsible for the incident; and/or

(x) Open source information to identify other collaborative or contradictory information regarding the Panel's findings.

(c) In carrying out its investigations on deprivation of liberty and associated violations the Panel relies on the following sources of information:

(i) The victims, where they are able and willing to speak to the Panel, and where medical and security conditions are conducive to such an interview;

(ii) The relatives of victims and others who had access to the victims while in custody. This is particularly relevant in instances where the victim dies in custody;

(iii) Interviews with at least one individual or organization (either local or international) that has also independently investigated the incident;

(iv) Medical documentation and, where applicable, death certificates;

(v) Documentation issued by prison authorities;

(vi) Interviews with medical personnel who treated the victim, wherever possible;

(vii) Investigation and other documentation from local and international organizations that have independently investigated the incident. The Panel may also seek access to court documents if the detainee is on trial or other documentation that proves or disproves the narrative of the victim;

(viii) Where relevant, the Panel uses local sources to collect specific and verifiable information from the ground, for example, medical certificates;

(ix) Statements issued by the party to the conflict responsible for the incident; and/or

(xx) Open source information to identify other collaborative or contradictory information regarding the Panel's findings.

(d) In carrying out its investigations on other violations, including forced displacement and threats against medical workers, the Panel relies on information that includes:

(i) Interviews with victims, eyewitnesses, and direct reports where they are able and willing to speak to the Panel, and where conditions are conducive to such an interview;

(ii) Interviews with at least one individual or organization (either local or international) that has also independently investigated the incident;

(iii) Documentation relevant to verify information obtained;

(iv) Statements issued by the party to the conflict responsible for the incident; and/or

(v) Open source information to identify other collaborative or contradictory information regarding the Panel's findings.

(e) The standard of proof is met when the Panel has reasonable grounds to believe that the incidents had occurred as described and, based on multiple corroboratory sources, that the responsibility for the incident lies with the identified perpetrator. The standard of proof is "beyond a reasonable doubt"

(f) Upon completion of its investigation, wherever possible, the Panel provides those responsible with an opportunity to respond to the Panel's findings in so far as it relates to the attribution of responsibility. This is undertaken in accordance with the Panel's standard methodology on the opportunity to reply. Generally, the Panel would provide detailed information in any opportunity to respond, including geo-locations. However, detailed information on incidents are not provided when there is a credible threat that it would threaten Panel sources, for example, in violations related to deprivation of liberty, violations associated with ground strikes on a civilian home, or in violations associated with children.

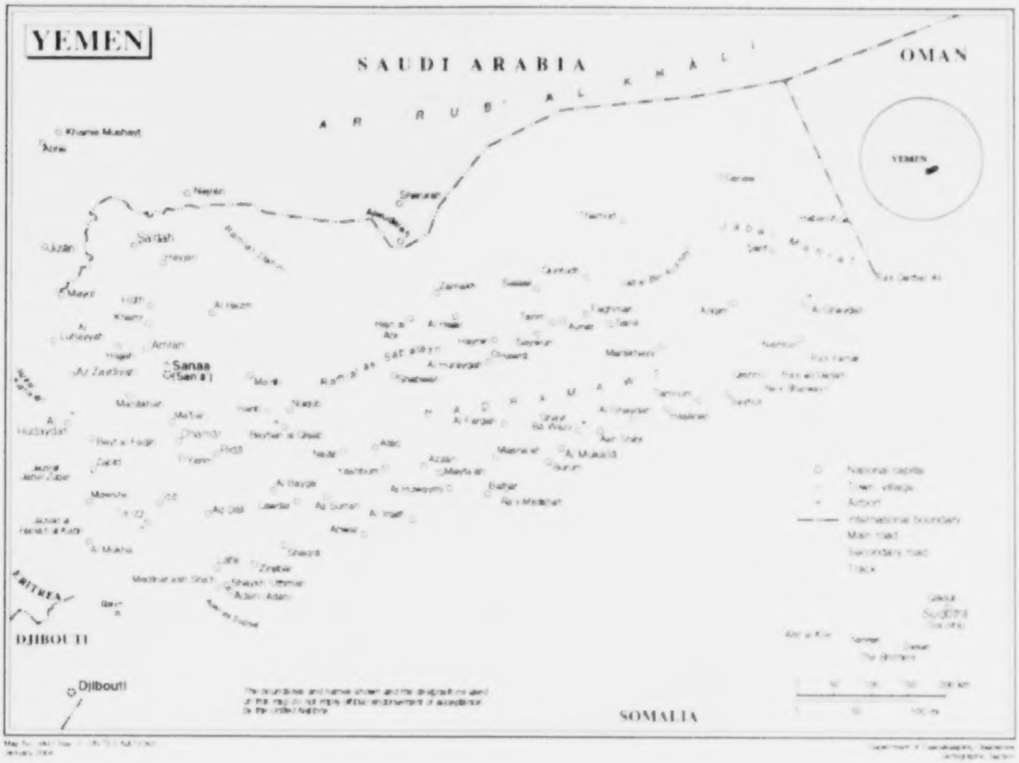
(g) If a party does not provide the Panel with the information requested, the Panel will consider whether this is of sufficient gravity to be considered as non-compliance with paragraph 8 of resolution 2342 (2017), and thus consideration for reporting to the Committee.

3. The Panel will not include information in its reports that may identify or endanger its sources. Where it is necessary to bring such information to the attention of the Council or the Committee, the Panel may include more source information in confidential annexes.

4. The Panel will not divulge any information that may lead to the identification of victims, witnesses, and other particularly vulnerable Panel sources, except: 1) with the specific permission of the sources; and 2) where the Panel is, based on its own assessment, certain that these individuals would not suffer any danger as a result. The Panel stands ready to provide the Council or the Committee, on request, with any additional imagery and documentation to supports the Panel's findings beyond that included in its report. Appropriate precautions will be taken though to protect the anonymity of its sources.

Annex 2: UN Geographic Information Systems (GIS) map (place name identification)

Figure 2.1
UN GIS place names Yemen


YEMEN
SAUDI ARABIA
AR RUB' AL KHALI
OMAN
YEMEN
Khamis Mushayt
Abha
Najran
Sharurah
Sa'dah
Jizan
Haydan
Midi
Hajjah
Al Hazm
Amran
Al Luhayyah
Az Zaydiyah
Sanaa
(San'a')
Marib
Zamakh
Al Hudaydah
Ma'bar
Dhamar
Bayt al Faqih
Zabid
Rida'
Yarim
Al Bayda'
Ibb
Ta'izz
Mawza
Al Mukha
Lahij
Zinjibar
Shaykh 'Uthman
Adan (Aden)
Shabwah
Ataq
Azzan
Mayfa'ah
Bal Haf
Ra's Mayfa'ah
Al Mukalla
Ash Shihr
Sayun
Tarim
Thamud
Sanaw
Al Ghaydah
Ra's Fartak
ERITREA
DJIBOUTI
Djibouti
SOMALIA
National capital
Town, village
Airport
International boundary
Main road
Secondary road
Track
Suqutra
(Socotra)
The Brothers

Annex 3: Summary of Panel correspondence (2017)

Table 3.1
Correspondence with Member States [1]

Member State	*Number of letters sent by the Panel*	*Number of unanswered letters by Member State*	*Remarks*
Australia	3	3	
Bulgaria	1		
Canada	1		
China	7		
Djibouti	2		
Egypt	2		
Finland	1		
France	4	4	
Germany	3		
India	3		
Islamic Republic of Iran	9	5	
Italy	4		
Japan	1		
Marshall Islands	1	1	
Netherlands	1		
Oman	5	1	
Philippines	1		
Republic of Korea	2		
Russian Federation	5	3	
Kingdom of Saudi Arabia	30	7	
Serbia	2	2	
Singapore	3		
Slovakia	1		
Sweden	1		
Switzerland	9		
Togo	1		
Turkey	2		
Ukraine	2		
United Arab Emirates	22	4	
United Kingdom of Great Britain and Northern Ireland	4	2	
United States of America	10		
Yemen	26	11	
Total	**169**	**43**	25% unanswered

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[1] This includes letters received by the Panel in Arabic on 2 January 2018, which had been outstanding for some months. This has not allowed the Panel time to fully analyze and verify all the information provided, hence some of it has not been included in the annexes to this report. The information will be used in ongoing investigations and reported on accordingly at the appropriate time.

Table 3.2
Correspondence with Sana'a based authorities

Entity	*Number of letters sent by the Panel*	*Number of unanswered letters by entity*	*Remarks*
Sana'a based ministry of foreign affairs	3	2	
Total	**3**	**2**	

Table 3.3
Correspondence with offices

Office	*Number of letters sent by the Panel*	*Number of unanswered letters by entity*	*Remarks*
Taipei Economic and Cultural Office in New York	3		
Total	**3**	**0**	

Table 3.4
Correspondence with international and regional organizations

Organization	*Number of letters sent by the Panel*	*Number of unanswered letters by entity*	*Remarks*
Combined Maritime Force	6	6	
IFC (World Bank Group)	1		
Total	**7**	**6**	

Table 3.5
Correspondence with commercial companies

Company	*Number of letters sent by the Panel*	*Number of unanswered letters by entity*	*Remarks*
Aerovironment (USA)	1	1	Holding email only
Daewoo (Republic of Korea)	1	1	
Dileton Maritime (Greece)	1		
Garmin (USA)	2	1	
MSA Incorporated (USA)	1		
PayPal (USA)	1	1	
Phillips (Netherlands)	1	1	
Prime Tanker Management (Greece)	1		
Winterbotham (Bahamas)	1	1	
Total	**10**	**6**	

Table 3.6
Correspondence with Individuals

Individual	*Number of letters sent by the Panel*	*Number of unanswered letters by entity*	*Remarks*
Ahmed Ali Abdullah Saleh (Yei.005)	1		
Total	**1**		

Annex 4: Governors loyal to the legitimate Government

Table 4.1
Governors loyal to the legitimate Government

Ser	*Name*	*Governorate / municipality*	*Remarks / Appointed*
1	*(Abd al-Aziz al-Maflakhi,[1] resigned 16 November 2017)*	Aden	Resigned November 2017
2	Major General Abu Bakr Hussayn Salem	Abyan	Previous Axis Commander in Abyan Resigned 22
3	Major General Abd al-Ghani Hafed'llah Jamil	Amanat Al Asimah	Minister of State
4	Abd al-Rahman Khazm al-Sa'wr	Amran	July 2017
5	Saleh Ahmed Ali al-Rasas *(Replaced Nayef Salih Salem al-Qaysi (QDi 402) on 23 July 2017)*	Bayda'	
6	Major General Ali Muqbil Saleh[2] *(Replaced Dr Fadhi al-Ja'di)*	Dali'	24 December 2017
7	Major General Ali al-Qawsi	Dhamar	
8	Brigadier General Faraj Salami al-Bahasani	Hadramawt	Commander, 2nd Military District, June 2017
9	Major General Abd al-Karim al-Sanini	Hajjah	
10	Dr. al-Hasan Ali Taher	Hudaydah	
11	Major General Abd al-Wahab al-Wai'li	Ibb	
12	Amin al-'Akimi	Jawf	
13	Brigadier General Ahmed Abdullah al-Turky[3] *(Replaced Dr Naser al-Khubaji)*	Lahij	24 December 2017
14	Rajah Said Ba'Krait *(Replaced Mohammed Abdallah Kudah)*	Mahrah	28 November 2017
15	Salah Sami'ah	Mahwit	
16	Major General Sultan Ali Mabkhout al-Aradha	Ma'rib	
17	Mohammed al-Hawri	Raymah	
18	Hadi Tarshan Abdullah Tarshan	Sa'dah	

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[1] President Hadi issued a statement refusing to accept his resignation. Governor Maflakhi remains outside Yemen. See http://www.worldbulletin.net/headlines/196034/yemeni-president-rejects-aden-governors-resignation.

[2] Major General Saleh also remains commander of the 33rd Armored Brigade in Dali.

[3] Brigadier General Ahmed Abdullah al-Turky also remains commander of the 17th Infantry Brigade.

Ser	Name	Governorate / municipality	Remarks / Appointed
19	Major General Abd al-Qawi Ahmed 'Ubad al-Sharif	Sana'a	
20	Ali Bin Rashid al-Harthi	Shabwah	June 2017
21	Ahmed Abdullah Ali al-Soqotri	Socotra	June 2017
22	Ameen Ahmed Mahmoud *(Replaces Ali al-Mamari)*[3]	Ta'izz	24 December 2017

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[3] Resigned in late September 2017 over unpaid salaries in his governorate, he rescinded his resignation, and remained in office until replaced. http://en.almenea.net/2017/09/28/taiz-governor-appointed-by-hadi-announced-his-resignation-because-of-disagreement-over-salaries/

Annex 5: Network of Nayef Salih Salem al-Qaysi[1]

Table 5.1
Network of Nayef Salih Salem al-Qaysi

Ser	*Name*	*Position*	*Location*
1	Abdo Rabbo al-Qaysi	Office manager	Aden
2	Ahmed Saleh al-Aysi		
3	Jalal Muqatah		Aden
4	Mohammed Saleh al-Ghunaimy	Local resistance leader	Diy Na'am Front
5	Mohammed Abd al-Qawi Musa al-Homoiqani	Ta'izz front liaison	

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[1] https://www.treasury.gov/press-center/press-releases/Pages/[illegible]

[2] https://www.treasury.gov/press-center/press-releases/Pages/[illegible]

Annex 6: Leadership and structure of provincial security and Security Belt forces[1]

Table 6.1
Leadership and structure of provincial security and Security Belt forces

Serial	*Name*	*Position*	*Location*	*Remarks*
1	Colonel Khader al-Nub[2]	Director of General Security	Abyan	
2	Colonel Abd al-Latif al-Sayed[3]	Commander Security Belt Forces	Abyan	
3	Lieutenant Colonel Mohammed al-Oban	Deputy Commander Security Belt Forces	Abyan	
5	Major General Shallal Ali Shaye	Director of General Security	Aden	
6	Brigadier General Wadha Omar Abduiaziz[4]	Commander Security Belt and 3rd Support Brigade	Aden	
7	Brigadier General Munir Mahmoud Ahmed al-Mashali[5]	Commander 1st Support Brigade[6] Emergency Forces	Abyan/Aden	
8	Colonel Nabil al-Mashwashi	Commander 2nd Support Brigade	Aden	
9	Colonel Hader al-Shukhaty	Commander 4th Support Brigade	Lahij	
10	Colonel Mukhtar al-Nubi	Commander 5th Support Brigade	Radfan/Lahij	

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[1] Note: Directors of General Security fall under the umbrella of the Ministry of Interior. Security Belt Forces are now organized under each General Security Directorate, as per confidential security officials.

[2] Appointed 14 November 2017, replacing Brigadier General Abdullah al-Fadhli.

[3] Former head of Abyan popular Committees in south Yemen, a militia leader to president's top ally. The Daily Mail, 24 March 2015 [illegible]

[4] Replaced Sayyed al-Shukhaty.

[5] Also known as Abu al-Yamama al-Yafa'i.

[6] Security Belt Forces component since 17 February 2017.

Annex 7: Southern Transitional Council (STC) local office directors[1]

Table 7.1
Southern Transitional Council local office directors

Ser	Name	Position	Office Location
1	Aydarous Muhammed Saleh Haqi	Head of Office	Abyan
2	Dr. Abd al-Nasser Ahmed Ali al-Waly	Head of Office	Aden
3	Abdullah Mahdi Saeed Ahmed	Head of Office	Dali
4	Nassib bin Ahmed bin Nassib al-'Omry	Head of Office	Hadramawt
5	Faysal Ahmed Hamash Saleh	Head of Office	Lahij
6	Salem Ali Saeed al-Qamiry	Head of Office	Mahrah
7	Ali Muhsin Rawis al-Sulemany	Head of Office	Shabwah
8	Nazim Mubarak Ali bin Qablan	Head of Office	Soqotra

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[1] The names were announced on 30 November 2017, see [illegible]

Annex 8: Houthi Governors

Table 8.1
Houthi appointed governors[a]

Ser	Name	Governorate municipality	Remarks
1		Aden	
2		Abyan	
3		Amanat Al Asimah	
4	Faysal Ja'man	Amran	
5		Bayda'	
6		Dali'	
7	Fadhil al-Sharqi	Dhamar	
8		Hadramawt	
9	Nayef Abu Kharfashah	Hajjah	
10	Abd al-Khaliq Badr al-Din al-Houthi	Hudaydah	
11	Abd al-Wahid Saleh	Ibb	
12	Sam al-Malahi	Jawf	
13		Lahij	
14		Mahrah	
15		Mahwit	
16		Ma'rib	
17	Murad al-Sharef	Raymah	
18		Sa'dah	
19	Ahmed Qatinah	Sana'a	
20		Shabwah	
21		Socotra	
22	Mansour al-Lakoumi	Ta'izz	

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[a] The table includes all governorates of Aden to illustrate those to which the Houthis have appointed governors.

Annex 9: The killing of Khaled Ahmed al-Radhi

I. Introduction

1. The Panel is investigating whether the killing of Khalid Ahmed al-Radhi by the Houthis on 26 August 2017[1] was a targeted killing, part of a larger strategy or as a consequence of confusion. Khaled Ahmed al-Radhi served as a deputy of the GPC foreign policy committee, was a Colonel in the Armed Forces and the owner of Vulcan Group, the most important supplier of material for the Yemeni Ministry of Defence during Ali Abdullah Saleh (YEi.003)'s presidency.[2]

2. Khaled al-Radhi's family extends from tribal elements in Amran, namely the Al Kharef tribe of the Hashid Confederation, which was led by Bayt al-Ahmar until 2014 when Houthis took over Amran governorate.[3] His family, of Zaydi background, included various pro-Houthi members as well as officials within the GPC and pro-Saleh armed forces. His cousin, Ambassador Abdullah Ali al-Radhi, a former Yemeni envoy to Tehran[4] and London[5] during Ali Abdullah Saleh (YEi.003)'s presidency, is well known for his links to the regime in Tehran. The family's status survived the six wars between Ali Abdullah Saleh (YEi.003)'s's regime and Houthis,[6] and the 2011 uprising.

II. Tensions within the Houthi-Saleh alliance

3. As result of distrust, miscalculation and obstructed lines of communication between former president Ali Abdullah Saleh (YEi.003) and the Houthi leadership, pre-existing tensions within the alliance of necessity deepened in 2017. A speech by Abdulmalik al-Houthi (YEi.004) on 19 August 2017[7] brought to light the level of looming tension. Abdulmalik al-Houthi (YEi.004) referred to rising threats by a 'Fifth Column', used by his supporters to accuse GPC elements protesting unpaid salaries. The speech served to pave the ground for much graver accusations of treason against Ali Abdullah Saleh (YEi.003) and his party.[8]

4. Ali Abdullah Saleh (YEi.003) responded on 20 August[9] 2017 with a speech of his own, setting the stage for the rally in Sana'a on 24 August 2017 to commemorate the 35th anniversary of the establishment of the GPC.[10] By this time the Houthis had begun to mobilise militia elements around the capital limits,[11] calling the deployment a security operation, which was not meant to intimidate the GPC. By Saturday 26 August 2016, the Houthis had established a number of checkpoints around Sana'a, some coincidently very near residential sites of Ali Abdullah Saleh (YEi.003)'s family and party members.

III. The killing of Khaled Ahmed al-Radhi

5. Check points not only emerged in order to constrain the movement of Ali Abdullah Saleh (YEi.003) and his loyalists, but as was the case on Saturday 26 August 2017, they aimed to instigate confrontations. Such was the case when Salah Ali Abdullah Saleh and his armed escort were stopped at a check point in the Hadda District, leading to an altercation and clashes when Salah refused to exit his

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[1] https://www.thenational.ae/world/mena/[illegible]

[2] http://vulcanyemen.com/. The Panel has evidence indicating his involvement in previous contracts.

[3] Houthi militia took control of Shaykh Abdullah bin Hussein al-Ahmar's (d. Dec. 2007) complex in al-Khamr, Amran and demolished all residential quarters on 2 February 2014. See [illegible]

[4] https://worldpeace365.wordpress.com/2017/[illegible]

[5] https://wikileaks.org/plusd/cables/[illegible]

[6] https://www.reuters.com/article/[illegible]

[7] https://www.rand.org/content/dam/rand/pubs/monographs/[illegible]

[8] http://www.[illegible]press.net/archives/[illegible]

[9] https://www.thenational.ae/world/[illegible]

[10] https://www.youtube.com/watch?v=[illegible]&feature=youtu.be

[11] http://www.aljazeera.com/news/2017/08/yemen-saleh-stages-[illegible].html

[12] https://www.youtube.com/watch?v=[illegible]&feature=youtu.be

vehicle; and his armed escorts scuffled with Houthi elements. Khaled Ahmed al-Radhi responded by deploying armed tribal elements, in attempts to de-escalate the confrontation and mediate Salah's right of way. The Houthis shot Al-Radhi dead upon exiting his own vehicle.

6. The immediate response to al-Radhi's killing was the suggestion it was a targeted assassination, as one shot to the head was identified as cause of death, with a second would in the torso area. Houthi gunmen were identified as the culprits, and a sniper shot to the head was confirmed to the Panel.

7. A targeted assassination was generally quickly dismissed as Houthi elements would require an order for such a thing. Furthermore, SRC president Mohammed Ali al-Houthi and SPC president Saleh al-Samad visited al-Radhi's family home on 29 August 2017 to clear all doubt. There are no confirmed reports on the traditional tribal customs arranged to repair relations between the family and Houthis. The Panel maintains the killing of Khaled al-Radhi was an accidental consequence of confusion at a time of heightened tensions.

CONFIDENTIAL ANNEX NOT FOR PUBLIC DISSEMINATION

Annex 10: Ali Abdullah Saleh (YEi.003) sons

CONFIDENTIAL ANNEX NOT FOR PUBLIC DISSEMINATION

Annex 11: Ali Abdullah Saleh (YEi.003) nephews

CONFIDENTIAL ANNEX NOT FOR PUBLIC DISSEMINATION

Annex 12: Ali Abdullah Saleh (YEi.003) daughters

Annex 13: GPC members killed or detained by the Houthi (December 2017)

Table 13.1
Officials of the General People's Congress (GPC) Party[1]

Ser.	*Name*	*Title*	*Status*
1	**Ali Abdullah Saleh (YEi.003)**	**President, GPC**	**Deceased (4 December 2017)**
2	Sadeq Amin Abu Ras	Vice President, GPC	
3	**Aref Awadh al-Zuqa**	**Secretary General**	**Deceased**
4	Yasser Ahmed al-Awadhi	Assistant Secretary General, Regulatory Affairs	In Sana'a
5	Dr Abu Bakr al-Qirbi	Assistant Secretary General, Cultural and Information Affairs	Outside Yemen
6	Fayqa al-Saeed	Assistant Secretary General, Civil Society Organizations	In Sana'a
7	Yahya al-Ra'i	Assistant Secretary General Speaker of Parliament	In Sana'a

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[1] The Panel has been unable to confirm if Sana'a based GPC members are under detention.

CONFIDENTIAL ANNEX NOT FOR PUBLIC DISSEMINATION

Annex 14: Ali Abdullah Saleh (YEi.003) wives

Annex 15: Mahrah Governorate Officials

Table 15.1
Mahrah Governorate Officials

	Name	*Position*	*Location of Origin*	*Remarks*
1	Rajah Saeed Ba'Krait	Governor	Hawf	
2	Salim Mohammed al-Aboodi	Assistant Governor		
3	Ahmed "Qahtan" Muhawi al-Mujibi	Chief of Security		
4	Mughareb bin Burqtaimi	Nishtun Port Director	Kudah	Serves as tribal affairs advisor
5	Ali Salem al-Kharizy	Assistant Governor for Desert Region	Miz'yunah	
6	Abdullah Issa bin Afrar	Sultan		STC member

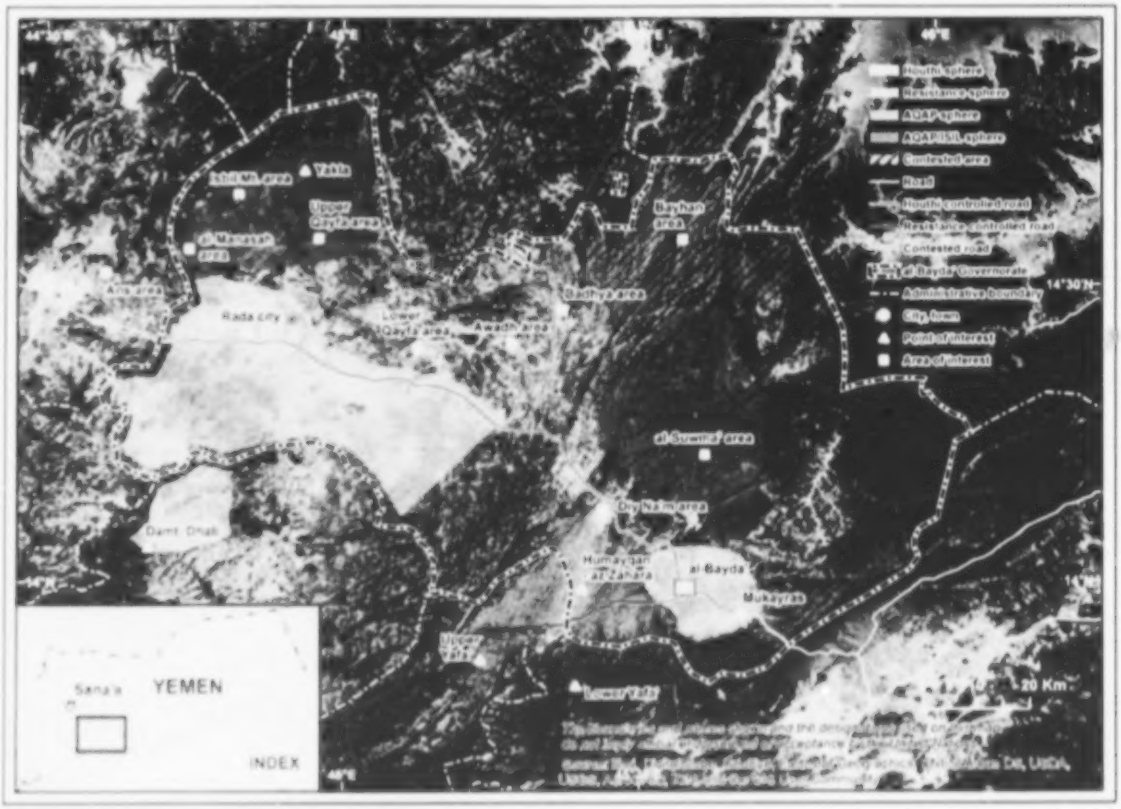
Was appointed on 18 November 2017 by President Hadi, replacing Mohammed Abdullah Kudah.

Annex 16: AQAP affiliates in Mahrah - 2017

Table 16.1
AQAP affiliates in Mahrah - 2017

Ser	*Name*	*Title*	*Location of Origin*	*Remarks*
1	Mohammed Salem Bir al-Sa'b	AQAP affiliate	Bayt Sumud tribe	
2	Abu Bakr Mohammed al-Jaylani	AQAP affiliate	Hawf	
3	Rashid Ali al-Sulimy	AQAP affiliate	Hawf	
4	Hisham al-Hamad	AQAP affiliate	Hawf	
5	Aydha bin Dhuwama	AQAP affiliate	Subaiha	
6	Mohammed Arman	AQAP affiliate	Bayt Sumud Tribe (Herma region)	
7	Khudress Arman	AQAP affiliate	Bayt Sumud Tribe (Herma region)	Brother to Mohammed Arman

Annex 17: Conflict Map of Bayda'[1]


44°30'E
45°E
46°E
14°30'N
14°N
Houthi sphere
Resistance sphere
AQAP sphere
AQAP/ISIL sphere
Contested area
Road
Houthi controlled road
Resistance controlled road
Contested road
al Bayda' Governorate
Administrative boundary
City, town
Point of interest
Area of interest
Yakla
Jabal Mt. area
Upper Qayfa area
al-Manasah area
Bayhan area
Arsh area
Rada city
Lower Qayfa area
Awadh area
Badhya area
al-Suwma' area
Dhi Na'im area
Damt, Dhale
Humaygan az Zahara
al Bayda
Mukayras
Lower Yafa
20 Km
Sana'a
YEMEN
INDEX

Department of Field Support
Geospatial Information Section (formerly Cartographic Section)

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[1] Developed by the Panel

Annex 18: Network of Abd al-Wahhab al-Humayqani

Table 18.1
Network of Abd al-Wahhab al-Humayqani

Ser	*Name*	*Position*	*Location of Origin*	*Remarks*
1	Abdo Rabbo Hussein al-Wuhayshi	Senior aide to Abd al-Wahhab al-Homaiqani	Bayt Sumud tribe	
2	Ali Mohammed Taher al-Homaiqani	Bayda' Resistance	Hawf	
3	Mohammed Ali Mohammed Taher al-Homaiqani	Financial Officer	Hawf	
4	Hisham al-Hamad		Hawf	
5	Hussein Ali Mohammed Taher al-Homaiqani		Subaiha	
6	Suleiman Mohammed Abd al-Rahman al-Homaiqani		Bayt Sumud tribe Herma region	
7	Abd al-Rahman Abdullah Mohammed al-Homaiqani		Bayt Sumud Tribe Herma region	Brother to Mohammed Arman

Annex 19: Associates of Abu al-Abbas

Table 19.1
AQAP associates of Abu al-Abbas

Ser	Name	Position	Location	Remarks
1	Ali al-Hassan	Salik brigade	Saber mountain	Related to Abd al-Malik al-Hudaby (also AQAP)
2	Majid Mahyub (a.k.a Majid Aby Ayham)	Salik brigade	Saber mountain	Lieutenant to Abu al-Abbas
3	Azzam al-Farhan	Jund al-Khalifa brigade		Lieutenant to Abu al-Abbas (ISIS associated)

Table 19.2
Subordinates of Abu al-Abbas

Ser	Name	Position	Location	Remarks
1	Ammar al-Jendaby (a.k.a Umar al-Jandabi)	Deputy	Houd al-Sharaf and al-Shaab school	
2	Adnan Rozaiq al-Qamishy	Hassan brigade	al-Saeed library	Also a Damaj student
3	Maran Ghalib	Commander	Musy Gate	
4	Nathan Kuwaiti			Nephew of Maran Galib (serial 3).

Table 19.3
Political and civilian associates of Abu al-Abbas

Ser	Name	Position	Location	Remarks
1	Abdu Hamoud al-Sagheer	Teacher		Allied to al-Islah through Sheikh Hamoud Saeed Makhalfi (Islah)
2	Harith Lutf al-Aizy	Prison escapee ex judge in AQAP courts	Suq al-Samil, Houd al Sharaf area	

Annex 20: Yemeni Government Military Districts and Commanders

Table 20.1
Yemeni Government Military Districts and Commanders

Military District	*Area*	*Name*
1	Sayyun	Major General Saleh Muhammad Tamis[1]
2	Mukalla	Major General Faraj Salamin al-Bahasani[2]
3	Ma'rib	Major General Ahmed Hasan Jibran
4	Aden	Major General Fadhl Hasan[3]
5	Hudaydah	Major General Amr Sajaf[4]
6	Amran / Sa'dah	Major General Amin al-Wa'ili[5]
7	Dhamar / Sana'a	Major General Nasser al-Dhaybani[6]

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[1] On 20 June 2017, Tamis was lightly wounded while attempting to mediate a tribal dispute in Hadramawt.

[2] On 29 June 2017, President Hadi named al-Bahasani Governor of Hadramawt to replace Ahmed bin Brik, who was fired for joining the STC.

[3] Appointed on 21 January 2017.

[4] Appointed on 23 February 2017. Sudanese troops are active in district 5 under the command of Brigadier General Hafiz Taj Maki.

[5] When Major General al-Wa'ili is out of the district, the acting commander is Major General Mansur bin Thawabah.

[6] Appointed 22 August 2017.

Annex 21: Presidential Protection Brigade Commanders

Table 21.1
Presidential Protection Brigade Commanders

Ser	Name	Brigade	Rank
1	Sind al-Rahwah	1st	Brigadier General
2	Abd al-Raqib Dabwan	2nd	Brigadier General
3	Ibrahim Haydan al-Sayari	3rd	Brigadier General
4	Mahran al-Qubati	4th	Brigadier General[1]
5	Adnan al-Rozaiq	5th	Brigadier General[2]

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[1] Brigadier General Mihran bin Muhammad bin Sayyid al-Qubati was born in 1983 in the Khor Maksar district of Aden. He is also known by the [illegible] Abu [illegible] and is loyal to President Hadi.

Annex 22: Camp 20 case study

I. Introduction

1. Camp 20[1] was named after the police uprising of 20 June 1967 (Black Tuesday) against British authorities.[2] It was established under the former People Democratic Republic of Yemen (PDRY). The camp was maintained under the Central Security Forces since unification until July 2015.

2. The Panel continues to investigate a number of arbitrary detentions by Government security forces and armed groups operating throughout the liberated governorates of Yemen. A number of incidents in Aden this year led to investigations of Camp 20 in the Crater District of Aden governorate.[3] Ordered closed on 28 October 2017 by President Abdo Rabbo Mansour Hadi,[4] Camp 20 was under the command of Imam Ahmed Muhammed Abdu al-Salwy,[5] who resigned on 31 October 2017.

3. The case of Amjad Mohammed Abd al-Rahman, assassinated on 14 May 2017, is at the centre of the investigation. His assassination and detention related abuses remain unsolved and without proper judicial investigation by local authorities.

II. Background

4. Imam Ahmed Muhammed Abdu al-Salwy, a.k.a Imam al-Nubi, is originally from the Crater district of Aden governorate. He is regarded as a local preacher and youth leader within the al-Islah Party.[6] It is reported that Imam al-Nubi joined the al-Islah party in 2007, leading a group of party loyalists in 2011 when conflict erupted between Southern Secessionists (Hirak) and al-Islah during the youth uprising against Ali Abdullah Saleh (YEi.003).

5. Al-Nubi later led a group of armed elements against Houthi-Saleh forces in Tawilah neighbourhood of Crater district from March to July 2015. Al-Nubi is said to have taken control of Camp 20 in August following the liberation of Aden from Houthi-Saleh forces.

6. Imam al-Nubi's ascent through the ranks of the Southern Resistance, and his integration into the Security Belt Forces, was facilitated by the position held by his half-brother Mukhtar al-Nubi.[7] Mukhtar was appointed commander of the 5th Support Brigade[8] on 23 November 2016 after leading Security Belt Forces in the Radfan district of Lahj governorate.[9] Mukhtar is a well-respected leader within Hirak. Reports indicate that Imam al-Nubi was instrumental in arming Mukhtar and his forces in 2015 from his arsenal in Crater.

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[1] Today across from Aban Mosque in Crater, Aden.

[2] https://www.nam.ac.uk/explore/aden-emergency-1963-67 and http://hansard.millbanksystems.com/lords/1967/jun/21/south-arabia-mutiny-by-federal-forces

[3] Camp 20 fell under the Ministry of Interior, previously occupied by Central Security Forces until liberation of Aden in July 2015.

[4] http://www.aden-tm.net/NDetails.aspx?contid=35227

[5] Imam al-Nubi did not hold any military rank, as Camp 20 remained under the Ministry of Interior until ordered closed by president Hadi. He was regarded as a "civilian leader" of the camp. Although Imam al-Nubi dressed in military uniform, no insignias or ranks were ever displayed. http://adengd.net/news/285234/. Imam is his given name, not his title.

[6] al-Tajammu al-Yamani lil-Islah (Yemeni Congregation for Reform).

[7] a.k.a. Makhtar Ahmed Abdu al-Nubi, Mukhtar Ali al-Nubi, Mukhtar Ali Muthni Saleh al-Nubi, and Mukhtar Ahmed Abdu al-Nubi.

[8] http://almandeb.news/?p=74113

[9] http://adengd.net/news/71588/

III. Amjad's case[10]

7. Elements belonging to the forces in Camp 20 have been accused of engaging in a harassment campaign against those political activists and individuals perceived as supporting 'secularist agendas' in Aden.[11] Among those targeted was Amjad Mohammed Abd al-Rahman.[12]

8. Amjad was a fourth-year student at Aden university, in his early 20s, and has being engaged in political activism since 2011. In February 2015, he co-founded the al-Nadi al-Nasiyya Cultural Organization with a group of like-minded youths. His activism focused on promoting political ideas that conflicted with those of local religious leaders. On 24 January 2017, he published a post on his Facebook page discussing sermons from the al-Hamad mosque in Crater District. That same day he was forcefully removed from near his home by armed men and detained in Camp 20. He was released 24 hours later, deprived of sleep and telling his family he had been tortured.

9. Amjad told the story of his detention in a dark room inside the Camp 20 facilities. Amjad indicated he was repeatedly questioned about his views on God, upsetting his interrogators by answering 'I am my own god', meaning he was self-taught and not a student of any particular religious shaykh. Interrogators are believed to have misinterpreted this and used it as evidence of him being an atheist.

10. At 11:45 hours on 14 May 2017 Amjad was assassinated at the Café Max (an internet shop) on Kuwait Street in Shaykh Othman district. One masked man shot Amjad four times in the face. Witnesses were unable to provide sufficient information about the shooter. The media attributed responsibility to elements from Camp 20.[13]

11. Individuals familiar with Amjad's case point to threats received via WhatsApp text messages from one 'Khaled Sa'yl' and others from inside Yemen and outside, and public warnings via media outlets against his activism.

IV. Other incidents

12. As a result of the allegations against Amjad, such as him being atheist, his family was unable to hold his funeral services in the area of Crater.[14] He had to be buried in al-Shab district instead. A number of close acquaintances were also harassed by elements from Camp 20 immediately following his death.

13. Among those also harassed by elements from Camp 20 were journalists Hani al-Junaid, Hussam Radman of Dubai TV, Majid al-Shuabi of Abu Dhabi TV, Ismail Salim of Shaqdafah TV (detained/tortured) and Khaled Senami.[15]

V. Remaining concerns

14. Although Camp 20 has been ordered closed by President Hadi,[16] and Imam al-Nubi has resigned from his command, it is unclear as where he and his troops have been reassigned. The Panel continues to monitor individuals who exerted influence over Imam al-Nubi and his troops from outside the Camp and government institutions.

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[10] Information provided with informed consent from the family

[11] https://english.alarabiya.net/en/features/2017/04/04/Yemeni-student-in-Aden-gets-detained-tortured-with-electric-wires.html. The Panel has verified another case where elements associated with Camp 20 were reportedly behind another case of arbitrary arrest and detention because of the detainee being an atheist. In this case, harassments and death threats resulted in the individual having to flee Aden.

[12] https://womenpress.org/en/womenpress-news/journalists-released-after-being-tortured-and-charged-with-atheism-in-aden.html.

[13] https://www.hunaaden.com/news39780.html

[14] https://www.middleeastmonitor.com/20170722-yemens-al-hirak-movement/

Annex 23: Shabwani Elite Forces command structure

Table 23.1
Shabwani Elite Forces command structure

Ser	Name	Unit	Rank
1	Muhammad al-Buhar al-Qumayshi	Shabwani Elite Forces	Lieutenant Colonel
2	Mahdi Mohammed Barahma	Shabwah Rapid Intervention Forces	Major
3	Muhammed Saleh Farah al-Kirby	Harad Base (Shabwah)	General
4	Muhammed Saleh al-Qakhly al-Nasy	Training Facilities (Shabwah)	Colonel

Annex 24: Key Houthi military and security figures

Figure 24.1
Prominent Houthi military commanders

Ser	*Name*	*Role*	*Rank/Remarks*
1	Muhammad Abd al-Karim al-Ghamari	head of general staff	major general
2	Ali Hamud al-Mushki	deputy head general staff	major general
3	Muhammad Fadhl	head of the navy and coastal defence	major general
4	Abdullah Yahya al-Hakim	head of intelligence	major general (YEi.002) known as Abu Ali al-Hakim[1]
5	Muhammad Nasser al-Ata'fi	minister of defence	major general
6	Ali al-Kuhlani	head of military logistics and support	major general
7	Husayn al-Ruhani	head of special operations	major general
8	Muhammad al-Miqdad	head of military operations	major general
9	Ibrahim al-Shami	head of the air force	major general

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[1] [illegible]

Annex 25: Key Houthi political figures

Table 25.1
Key Houthi political figures

Serial	*Name*	*Title*	*Organization*	*Remarks*
1	Mohammed Ali al-Houthi	president	supreme revolutionary committee	Military wing
2	Abdullah Yahya 'Abu Ali' al-Hakim (YEi.002)	chief of military intelligence commander of republican guard (Dec 2017)	ministry of defence	Military wing
3	Mutlaq 'Abu Emad' Amer al-Marani	deputy director	national security bureau ("NSB")	Military wing
4	Abdul Karim al-Houthi	chairman	executive committee	Affiliated with Military wing
5	'Mohammed' Abd al-Salam Salah Filaitah	spokesman	politburo	Affiliated with Military wing
6	Saleh al-Samad	president	supreme political council	Political wing
7	Mahdi al-Mashat	chief of staff	sayyid abdulmalik badr al-din al-houthi	Political wing
8	Ali al-Emad	chairman	revolutionary monitoring committee politburo	Political wing
9	Hamza al-Houthi		foreign affairs committee	Political wing
10	Hussein al-'Izzi		foreign affairs committee	Political wing

Annex 26: Saudi Arabia published Houthi "Most Wanted" list[1]

Figure 26.1
Houthi "Most Wanted" list

Ser	*Name*	*Reward (US$)*	*Remarks*
1	Abdul Malik al-Houthi	30,000,000	(YEi.004)
2	Saleh Ali al-Samad	20,000,000	president, supreme political council
3	Muhammad Ali al-Houthi	20,000,000	head of revolutionary committee
4	Zakariya Yahya al-Shami	20,000,000	
5	Abdullah Yahya al-Hakim	20,000,000	(YEi.002)
6	Abd al-Khaliq al-Houthi	20,000,000	
7	Muhammad Nasser al-Ata'fi	20,000,000	minister of defence
8	Yusif al-Madani	20,000,000	head of 5th military district
9	Abd al-Qadir al-Shami	20,000,000	
10	Abd al-Rabb Jarfan	20,000,000	
11	Yahya Muhammad al-Shami	20,000,000	
12	Abd al-Karim Amir al-Din al-Houthi	15,000,000	
13	Yahya Badr al-Din al-Houthi	10,000,000	
14	Hassan Muhammad Zayd	10,000,000	
15	Safr Maghdi al-Sufi	10,000,000	
16	Muhammad Abd al-Karim al-Ghamari	10,000,000	
17	Abd al-Raziq al-Marwani	10,000,000	
18	Amar Ali al-Marani	10,000,000	
19	Ibrahim Ali al-Shami	10,000,000	
20	Fadhl Muhammad al-Matla	10,000,000	
21	Muhsin Saleh al-Hamzi	10,000,000	
22	Ahmed Saleh Hindi Daghsan	10,000,000	
23	Yusif al-Fiyshi	10,000,000	
24	Husayn Hamud al-Azzi	5,000,000	
25	Ahmed Muhammad Yahya Hamid	5,000,000	
26	Talal Abd al-Karim Aqlan	5,000,000	
27	Abdullah Muhammad Hajir	5,000,000	
28	Fares Mana'a	5,000,000	
29	Ahmed Abdullah Aqubat	5,000,000	
30	Abd al-Latif Hamud al-Mahdi	5,000,000	head of 4th military district
31	Abd al-Hakim Hashim al-Khaywani	5,000,000	

Ser	*Name*	*Reward (US$)*	*Remarks*
32	Abd al-Hafiz al-Saqqaf	5,000,000	
33	Mubarak Mishn al-Zayadi		head of 3rd military district; member of SPC
34	Ali Sa'id al-Razimi	5,000,000	
35	Saleh al-Sha'ir	5,000,000	
36	Ali Hamud al-Mushki	5,000,000	deputy head general staff
37	Muhammad Sharaf al-Din	5,000,000	
38	Dhayf Allah Qasim al-Shami	5,000,000	
39	Abu Ali al-Kuhlani	5,000,000	
40	Ali Nasser Qirshah	5,000,000	

Annex 27: Houthi family tree

Table 27.1
Houthi family tree

1. The Houthi family tree shows the sons of Badr al-Din Amir al-Din Husayn al-Houthi (1922 – 2010), the father of Abdulmalik al-Houthi (YEi.004).

Ser.	*Wife*	*Name*	*Remarks*
	Wife 1		From Khawlan bin Amr
1		Husayn Badr al-Din al-Houthi	(Deceased) (1960 – 2004) Initial Houthi Movement Leader
2		Yahya Badr al-Din al-Houthi	Current minister of education in '28 November government'
3		Ahmed Badr al-Din al-Houthi	
4		Abd al-Qadir Badr al-Din al-Houthi	
	Wife 2		
5		Muhammad Badr al-Din al-Houthi	
6		Hamid Badr al-Din al-Houthi	
	Wife 3		
7		Ibrahim Badr al-Din al-Houthi	
8		Amir al-Din Badr al-Din al-Houthi	
	Wife 4		A Sayyid woman from the Sittin family
9		Abdulmalik Badr al-Din al-Houthi	(YEi.004)
10		Abd al-Khaliq Badr al-Din al-Houthi	(YEi.001)
11		Najm al-Din Badr al-Din al-Houthi	
12		Abd al-Salam Badr al-Din al-Houthi	
13		Ali Badr al-Din al-Houthi	

Annex 28: Houthi military districts and commanders

Table 28.1
Houthi military districts and commanders

military district	*Location*	*Name*	*Remarks*
1	Sayyun	No known Houthi commander	
2	Mukalla	No known Houthi commander	
3	Ma'rib	Mubarak Salih al-Mishin	
4	Aden	Abd al-Latif Hamud Mahdi	Appointed 25 April 2017
5	Hudaydah	Yusif al-Madani[1]	Married to daughter of Husayn Badr al-Din al-Houthi
6	Amran / Sa'dah	Muhammad Yahya al-Hawari[2]	
7	Dhamar / Sana'a	Hamid al-Kharashi	

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[1] Al-Madani is a trusted member of the Houthis, who was named Houthi commander of the 5th military district when a Saudi Arabia-led coalition attack on the port city of Hudaydah looked imminent.

[2] The Panel is now able to confirm that reports that major general Muhammad al-Hawari was killed in the Saudi Arabia-

Annex 29: Summary of reported PBIED and SVIED attacks (2017)

Table 29.1
Summary of reported PBIED and SVIED attacks (2017)

Ser	*Date*	*Location*	*Device Type*	*Target*	*Civilian Fatalities*[1]	*Military Fatalities*	*Civilians Injured*	*Military Injured*	*Claimed by*	*Remarks*
1	7 Jan 2017	Al-Wadea, Abyan	PBIED	Military checkpoint.		6		20	No claim	
2	11 Jan 2017	Loder, Abyan	PBIED			1		5	AQAP	
3	15 Feb. 2017	Bayda	SVIED		3		3		AQAP	
4	24 Feb 2017	Zinjibar	SVIED	Military Camp		8		11	AQAP	
5	29 Mar 2017	Al-Houta, Lahj	SVIED			6			AQAP	
6	9 Apr 2017	Aden	PBIED	CP						Failed attack
7	7 Jun 2017	Zanjibar	SVIED	Governor		2			AQAP	
8	12 Jun 2017	Da'wan	SVIED			2			AQAP	
9	8 Aug 2017	Lodor	SVIED	103 Brigade		3		6	AQAP	Arif Abd al-Hassan Habib
10	23 Oct 2017	Abyan	SVIED	CP		4		10	AQAP	
11	29 Oct 2017	Al Mahfad, Abyan	SVIED PBIED			3			AQAP	
12	5 Nov 17	Khormaksar, Aden	SVIED			18			ISIL	SVIED and 4 x PBIED
13	14 Nov 17	Shiekh Othman, Aden	SVIED	Security Belt Operations Centre		6			ISIL	Abu Haga al-Adani

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[1] Excluding the 'suicide' bomber. Named in Remarks column where published

Figure 29.1
Summary of SVIED attacks (Quarterly 2016 - 2017)

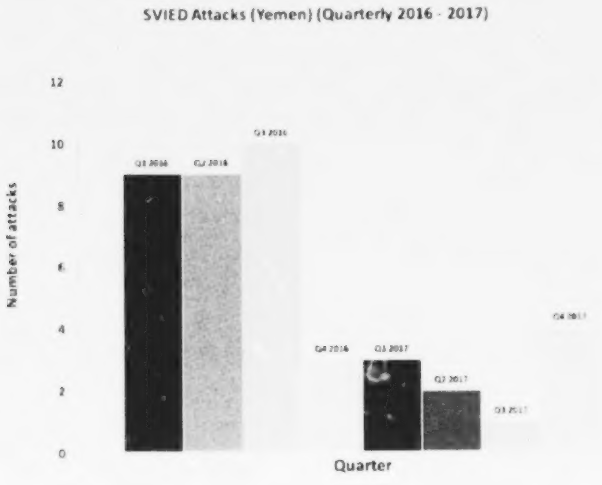
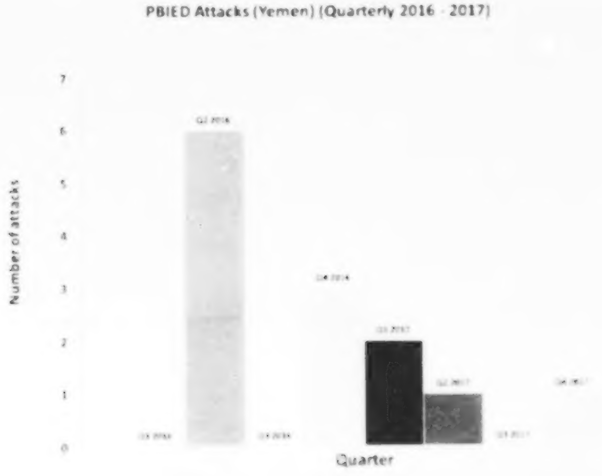


Figure 29.2
Summary of PBIED attacks (Quarterly 2016 - 2017)



Annex 30: AQAP linked persons of interest to the Panel[1]

Figure 30.1
Prominent AQAP figures

Ser	*Name*	*Role*	*Remarks*
1	Qasim Yahya al-Raymi	Leader	(QDi.282) Yemeni
2	Ibrahim Asiri	Chief bomb maker	Saudi
3	Said Attif al-Awlaqi	Head of AQAP (Shabwah[2])	Yemeni
4	Muntasir Badi	Financier in Abyan	
5	Khaled Umar Batarfi	Battle commander	Yemeni
6	Khalid al-Daba	AQAP leader in Lahij	May be under arrest[3]
7	Muhammad Abdullah Husayn Daramah	Judge on Shariah Council	
8	Muhammad Abd al-Karim al-Ghazali	Financial Head	Yemeni
9	Abu Yusif al-Lahji	Head of AQAP (Lahij)	Yemeni
10	Khamis Arfaj al-Marwani	Head of AQAP (Jawf)	Yemeni
11	Salim al-Najdi	Media figure	Saudi
12	Ibrahim al-Quso	Propagandist	Former Guantanamo detainee / Sudanese
13	Wa'il Sayf (Abu Salim al-Adani)	Head of AQAP (Aden)	Yemeni
14	Muhammad Umar	Military Commander Jawf	Yemeni
15	Nayif al-Qaysi[4]	Financier	(QDi.402) Yemeni
16	Adil Abdu al-Dhuhbani[5]	Militia Leader Ta'izz	Yemeni. (a.k.a Abu al-Abbas)
17	Sayf Abd al-Rabb al-Hayashi[6]	Weapons Dealer Financier	Yemeni
18	Bilal Ali Muhammad al-Wafi[7]	Commander in Ta'izz	Yemeni
19	Ghalib al-Zaidi[8]	AQAP leader in Ma'rib	(QDi.401) Yemeni

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[1] This table has been compiled from a variety of sources, including confidential sources, interviews with individuals inside and outside of Yemen, open sources, news reports and AQAP documents.

[2] On 20 June 2017 a US strike killed Abu Khattab al-Awlaqi, the deputy head of AQAP in Shabwah.

[3] The Panel has received a report, which it has been unable to verify, that security forces loyal to President Hadi may have arrested Khalid al-Daba.

[4] Nayif al-Qaysi is the former Governor of Bayda' for the legitimate Government. He was sanctioned by the UN ISIL (Da'esh) and Al-Qaida Sanctions Committee on 22 February 2017. He was removed from his post as Governor on 23 July 2017. He was sanctioned by the Terrorist Financing Target Center (TFTC) and its member States on 25 October 2017.

[5] Adil Abdu al-Dhubhani, better known as Abu al-Abbas, is the most powerful militia leader in Ta'izz (see 2017 Panel Mid-term Update, paras. 28 – 33). He has received significant support in the past from the UAE. He was sanctioned by the TFCT on 25 October 2017.

[6] Sayf al-Hayashi was sanctioned by the TFTC on 25 October 2017.

[7] Bilal al-Wafi was sanctioned by the TFTC on 25 October 2017.

[8] On 22 February 2017 the ISIL (Da'esh) and Al-Qaida Sanctions Committee listed al-Zaidi (QDi.401).

Annex 31: AQAP and the tribes (and the 23 May 2017 US raid)

I. Introduction

1. This section includes a case study of the al-'Idhal clan of the Murad tribe and the 23 May 2017 US raid.

2. Tribes in Yemen are not monolithic entities[1] that either decide to join or provide refuge to AQAP as a group.[2] Instead what tends to happen is that individual members of a particular tribe join AQAP and then welcome outside fighters into their village, effectively providing AQAP with an umbrella of tribal protection.

3. Such tribesmen have dual identities. They are AQAP members to al-Qaida, and tribesmen to their tribes. This means that while they are sometimes targeted and killed as AQAP members, they are often avenged as tribesmen.

4. This issue of dual identities is also at the centre of the US raid on a cluster of homes belonging to the al-'Idhal clan of the Murad tribe[3] in Ma'rib on 23 May 2017.[4] The US carried out the raid on a target it had identified as AQAP, which was then defended on the ground as an attack on the tribe.

II. Background

5. In late April or early May 2017, approximately three weeks prior to the raid, one member of the clan, Muhammad Said al-'Idhal, an AQAP member, was killed in a US armed unmanned aerial vehicle (AUAV) strike.[5] Following his death, at least seven men from outside the clan moved in to his house.[6] It was this very house that the United States then subsequently targeted on 23 May 2017.

III. The Raid

6. The night raid began at approximately 02:00 hours on 23 May 2017, with approximately 50 troops from the US Navy SEAL[7] special forces descending on the village.[8] Almost immediately the raiding party came under attack by the al-'Idhal clan tribesmen, who seeing their village was under attack could not have been aware that only one particular house was being targeted.

7. Five tribesmen were killed, ranging in age from 15 – 80, and another five were wounded.[9] Both AQAP

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[1] Many, although certainly not all, tribes in Yemen belong to two main tribal confederations, Hashid and Bakil. Each tribal confederation is led by a *shaykh ma-shaykh* (sheikh of sheikhs). The Hashid tribe is smaller than the Bakil tribe but, at least until recently, acted as a more cohesive whole. Neither tribal confederation, however, speaks with one voice on any given issue. Indeed, it is more helpful to think of each tribal confederation as an alliance of member states, each pursuing their own self-interests.

[2] In fact, the tribes of Yemen and AQAP are closer to natural enemies than they are to allies, as both groups seek to control and administer territory.

[3] The Murad tribe has roughly 60,000 members.

[4] This is the second US military raid against AQAP that the Panel has documented in 2017. The first, on 29 January 2017, included the use of UAE forces.

[5] The US acknowledged a drone strike in Ma'rib on 18 April 2017. http://www.centcom.mil/MEDIA/NEWS-ARTICLES/News-Article-View/Article/1162256/pentagon-spokesman-updates-iraq-syria-yemen-operations/. Another drone strike in Ma'rib was reported on 29 April 2017, which killed an individual named Muhammad al-'Idhal http://www.almasdaronline.com/article/90812. The Panel has not been able to independently verify if this individual was Muhammad Said al-'Idhal.

[6] *These appear* to be the seven men the US targeted and killed during the raid as AQAP members. Confidential local source.

[7] Sea, Air and Land.

[8] Confidential local source, and http://www.centcom.mil/MEDIA/PRESS-RELEASES/Press-Release-View/Article/1190002/us-forces-conduct-counter-terrorism-raid/.

[9] The names of the dead are: Nasser Ali Mahdi al-'Idhal, Saleh Luttaf al-'Idhal, Yasser Luttaf al-'Idhal, Abdullah Said al-'Idhal, and Abd al-Qadir Saleh al-'Idhal.

and local Yemenis highlighted this fact in subsequent statements and accounts of the raid.[10] The US troops also killed the seven individuals that they had targeted, who were staying in the house of the late Muhammad Said al-'Idhal.[11]

8. The US has not released the names of those seven individuals, and neither local Yemeni reporting nor the AQAP statement acknowledged their deaths.[12] AQAP members who survived the raid prevented villagers from entering Muhammad Said al-'Idhal's house after the raid, and over the next few days the seven bodies were removed from the village for burial in an unknown location.[13]

IV. The aftermath

9. The raid on the AQAP house in an al-'Idhal clan village illustrates the complexities of fighting AQAP in the midst of the broader conflict in Yemen. Although the US achieved its target, by killing seven AQAP members, it also killed five tribesmen who were acting in self-defence. They were defending their village not to protect AQAP but rather because of the perception that their village was under attack by, to them, unknown armed men. Such actions can have unintended consequences. On one hand, armed UAV strikes and armed raids such as the one on 23 May 2017 can induce some clans and tribes to deny aid to AQAP. On the other hand, the death of tribesmen can act as a force-multiplier for AQAP, leading to more men joining AQAP in order to avenge their fallen relatives.[14]

10. AQAP is aware that it needs the tribes to operate in Yemen. If the tribes in Yemen were to turn against AQAP en masse, the terrorist organization would have no freedom to manouvere, no recruits and no future. AQAP is aware of this and has therefore developed a two-track approach to the tribes. Firstly, AQAP propaganda frequently stresses its desire for positive relations with various tribes: overtures that most tribes ignore.[15] Secondly, it is actively working to recruit young tribesmen,[16] not simply because it wants more fighters, but because these particular tribal fighters represent the entry into tribal society that AQAP so desires.

11. It is not the tribes of Yemen that are a problem when it comes to the war against AQAP. Indeed, the tribes' could be a powerful ally against AQAP, providing some governance and structure in areas where AQAP would otherwise have a free hand. Instead, it is young, not quite fully integrated tribesmen who represent the greatest challenge. They are able to use their two identities as tribesmen and AQAP members to blur the lines and provide AQAP with protection and foothold they need to grow and thrive in Yemen.

12. The Panel believes that the dynamics outlined in this annex represent a threat to the peace, security, and stability of Yemen.

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[10] See AQAP's statement of 26 May 2017: https://azelin.files.wordpress.com/2017/05/al-qacc84-idah-in-the-arabian-peninsula-22about-the-american-landing-upon-the-muracc84d-tribe22.pdf. For Yemeni reporting see, for example http://www.almasdaronline.com/article/91432.

[11] http://www.centcom.mil/MEDIA/PRESS-RELEASES/Press-Release-View/Article/1190002/us-forces-conduct-counter-terrorism-raid/.

[12] Similarly, the United States statement failed to acknowledge the five tribesmen killed in the raid.

[13] Confidential local source.

[14] The Panel has information suggesting that both trends are taking place within the al-'Idhal clan.

[15] For most tribes AQAP is a minor nuisance not a major concern.

[16] Part of this recruiting process involves the payment of monthly salaries, which the Panel continues to investigate. Older tribesmen typically have little interest in joining AQAP as they are often more established men with families and positions of influence in the tribes and see AQAP as a threat.

Annex 32: ISIL affiliated persons of interest to the Panel[1]

Figure 32.1
Prominent ISIL figures

Ser	*Name*	*Role*	*Remarks*
1	Abu Sulayman al-Adani[2]	Head of ISIL-Yemen	Yemeni
2	Nasir al-Ghaydani (Abu Bilal al-Harbi)	An ISIL leader	Deceased[3]
3	Khaled Abdullah al-Marfadi	Military commander	Yemeni[4]
4	Khaled Umar al-Marfadi	Financial official	Yemeni[5]
5	(Abu Abd al-Rahman al-Muhajir)[6]	Shariah official	
6	(Abu Saleh)[7]	Military commander	
7	Radwan Muhammad al-Qanan[8]	ISIL leader in Aden	Yemeni
8	Muhammad Said Umar Bawazir	An ISIL leader	
9	Nashwan al-Wali al-Yafa'i[9]	Financier	Yemeni
10	Khalid Sa'id Ghabish al-Ubaydi[10]	ISIL leader in Hadramawt	Yemeni

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[1] This table has been compiled from a variety of sources, including confidential sources, interviews with individuals inside and outside of Yemen, open sources, and news reports.

[2] Abu Sulayman al-Adani was named by Terrorist Financing Target Center (TFCT) and its member states as the head of ISIL-Yemen and was sanctioned on 25 October 2017. See: https://www.treasury.gov/press-center/press-releases/Pages/sm0187.aspx

[3] The Panel can confirm that Abu Bilal al-Harbi has been killed. Following his death, ISIL in Yemen named a training camp in al-Baydha after him.

[4] al-Marfadi is from Yafa'a. He was sanctioned by the TFCT on 25 October 2017.

[5] Also from Yafa'a.

[6] al-Muhajir reportedly also uses the *kunya*: Abu Muhammad al-Kanani.

[7] Abu Saleh reportedly also uses the *kunya*: Abu Husayn.

[8] Radwan Qanan was sanctioned by the TFCT on 25 October 2017.

[9] Nashwan al-Yafa'i was sanctioned by the TFCT on 25 October 2017.

[10] Khalid al-Ubaydi was sanctioned by the TFCT on 25 October 2017.

Annex 33: Arms supply routes to Houthi territory in Yemen

Table 33.1

Summary of arms supply routes to Houthi territory in Yemen

Ser	*Transport mode*	*Destination / Route*	*Status for arms supply*	*Remarks*
1	Air	Airports in Houthi controlled territory	**Closed**	▪ Saudi Arabia-led coalition has air superiority. Air routes under constant airborne surveillance.
2	Air	Air delivery to improvised air strips or by air drops	**Highly unlikely**	▪ Saudi Arabia-led coalition has air superiority. Air routes under constant airborne surveillance.
3	Sea Vessels > 300t[1]	Red Sea ports (e.g. Hudaydah)	**Unlikely**	▪ All vessels require UNVIM clearance and are subject to random or planned inspection or interdiction by Saudi Arabia-led coalition naval forces. ▪ No seizures on this route since March 2017. ▪ Possible for non-explosive weapons in component form concealed in cargo, but land routes are a better option, as interdiction risks are lower.
4	Sea Vessels < 300t	Red Sea ports or across beaches	**Unlikely**	▪ Small vessels risk interdiction by Saudi Arabia-led coalition or Combined Maritime Forces (CMF)[2] naval forces. ▪ No seizures on this route since March 2017.
5	Sea	Gulf of Aden ports or across beaches (west of Qishn)	**Effectively closed**	▪ Ports in territory under control of legitimate government of Yemen. ▪ Vessels risk interdiction by Saudi Arabia-led coalition or CMF naval forces. ▪ Subsequent interdiction risk on land route. ▪ Evidence of vessels smuggling arms from Yemen to Somalia across beaches.[3]

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[1] Regulation V/19 of SOLAS (International Convention for the Safety of Life at Sea, 1974) requires that automatic identification systems (AIS) be fitted and used on vessels of above 300 gross tonnes. The AIS may be switched off to hide a vessel's position if engaged in nefarious activity, but the vessel will still be visible to naval radar. Lack of an AIS signal would raise the immediate suspicions of Saudi Arabia-led coalition or CMF naval vessels.

[2] https://combinedmaritimeforces.com.

[3] Paras. 103 - 110 to S/2017/925.

Ser	*Transport mode*	*Destination / Route*	*Status for arms supply*	*Remarks*
6	Sea	Arabian Sea ports or across beaches (east of Qishn)	Possible	▪ Ports in territory (e.g. Ghaydah) not under effective control of legitimate government of Yemen. ▪ Vessels risk interdiction by Saudi Arabia-led coalition, CMF or Omani naval forces. ▪ Subsequent interdiction risks on land route. ▪ Interdiction risk at border control posts (BCP) if landed in Oman.
7	Land	From Oman	Possible	▪ Initial interdiction dependent on effectiveness of control checks at busy BCP. ▪ Interdiction risks increase with proximity to Houthi controlled territory as checkpoints increase with proximity. ▪ Not suitable for larger calibre weapons, such as artillery, as concealment in vehicles difficult.
8	Land	Southern main supply route (MSR) from Al Ghaydah	Open	▪ Interdiction risks increase with proximity to Houthi controlled territory as checkpoints increase with proximity. ▪ Not suitable for larger calibre weapons, such as artillery, as concealment in vehicles difficult.
9	Land	Northern MSR via Thamud	Open	▪ Interdiction risks increase with proximity to Houthi controlled territory as checkpoints increase with proximity. ▪ Not suitable for larger calibre weapons, such as artillery, as concealment in vehicles difficult.
10	Land	From Saudi Arabia	Closed	▪ Border is well patrolled.

Annex 34: Summary of Houthi-Saleh SRBM and FFR attacks against Saudi Arabia

1. Tables 34.1 to 34.4 contain summaries of Houthi-Saleh forces short-range ballistic missile (SRBM) or free flight rocket FFR attacks against Saudi Arabia during the conflict. The data was supplied by Saudi Arabia, and then compared against the media and Houthi-Saleh reported attacks in paragraphs 81 to 85 and annex 42 of S/2017/81 and the consolidated tables below developed by the Panel.

2. Table 34.1 contains a summary of the total number of reported or confirmed launches.

Table 34.1

Summary of confirmed or reported Houthi-Saleh SRBM and FFR attacks against Saudi Arabia (2015 - 2017)

	SCUD B/C or Hwasong-5/6		*Borkan -2 (SCUD ER)[1] or Borkan-2H*		*Qaher-1 (S-75)*		*Zelzal-2/3*		*OTR-21 Tocka*		*Not Known*		*Totals*	
Year	*L*[2]	*Intercepted*[3]	*L*	*Intercepted*	*L*	*Intercepted*	*L*	*Intercepted*	*L*	*Intercepted*	*L*	*Intercepted*	*L*	*Intercepted*
2015	3	1 (33%)			18	9 (50%)					2	1 (50%)	23	11 (48%)
2016[4]	6	1 (17%)	2	2 (100%)	24	12 (50%)	2	1 (50%)	2	2 (100%)	11	3 (27%)	47	21 (45%)
2017			9	4 (43%)	4	4 (100%)					19	14 (78%)	33	23 (73%)
Totals	9	2 (22%)	11	6 (58%)	46	25	2	1 (50%)	2	2 (100%)	32	18 (58%)	112	55 (49%)

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[1] These are probably SCUD-B or Hwasong-5 or 6 SRBM modified for extended range by the Houthi-Saleh alliance.

[2] L = Launched

[3] Reported or confirmed as being intercepted and destroyed in flight by anti-missile systems. Probably PAC-3 Patriot.

[4] Note corrected figures from annex 42 of S/2017/81.

3. Table 34.2 contains a summary of missile and FFR launches that have been confirmed to the Panel by the Government of Saud Arabia.

Table 34.2
Summary of Saudi Arabian government confirmed Houthi-Saleh SRBM and FFR attacks against Saudi Arabia (2015 - 2017)

	SCUD B/C or Hwasong-5/6		*Borkan - 2(SCUD ER)[5] or Borkan-2H*		*Qaher-1 (S-75)*		*Zelzal-2/3*		*OTR-21 Tocka*		*Not Known*		*Totals*	
Year	*L[6]*	*Intercepted[7]*	*L*	*Intercepted*	*L*	*Intercepted*	*L*	*Intercepted*	*L*	*Intercepted*	*L*	*Intercepted*	*L*	*Intercepted*
2015	2	1 (50%)			7	5 (71%)					2	1 (50%)	11	7 (64%)
2016	1	1 (100%)	2	2 (100%)	15	10 (67%)					5	2 (40%)	23	15 (65%)
2017			7	3 (33%)	4	4 (100%)					15	12 (80%)	25	18 (72%)
Totals	3	2 (67%)	9	5 (58%)	26	19 (73%)					22	15 (68%)	60	41 (70%)

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[5] These are probably SCUD-B or Hwasong-5 or 6 SRBM modified for extended range by the Houthi-Saleh alliance

[6] L = Launched

[7] Intercepted and destroyed in flight by anti-missile systems. Probably PAC-3 Patriot

4. Table 34.3 contains a summary of launches reported in open source media, but not confirmed by the Government of Saudi Arabia.

Table 34.3
Summary of other media reported Houthi-Saleh SRBM and FFR attacks against Saudi Arabia (2015 - 2017)

	SCUD B/C or Hwasong-5/6		*Borkan - 2(SCUD ER)[a] or Borkan-2H*		*Qaher-1 (S-75)*		*Zelzal-2/3*		*OTR-21 Tocka*		*Not Known*		*Totals*	
Year	*L[b]*	*Intercepted [c]*	*L*	*Intercepted*	*L*	*Intercepted*	*L*	*Intercepted*	*L*	*Intercepted*	*L*	*Intercepted*	*L*	*Intercepted*
2015	1	0 (0%)			11	4 (36%)							12	4 (33%)
2016	5	0 (0%)			9	2 (22%)	2	1 (50%)	2	2 (100%)	6	1 (17%)	24	6 (25%)
2017			2	1 (50%)							4	3 (75%)	6	4 (60%)
Totals	6	0 (0%)	2	1 (50%)	20	6 (30%)	2	1 (50%)	2	2 (100%)	10	4 (40%)	42	14 (33%)

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[a] These are probably SCUD-B or Hwasong-5 or 6 SRBM modified for extended range by the Houthi-Saleh alliance
[b] L = Launched
[c] Intercepted and destroyed in flight by anti-missile systems. Probably PAC-3 Patriot

5. Table 34.4 contains more details of SRBM missile and FFR attacks that have been confirmed by the government of Saudi Arabia (shown as a numerical serial),[11] and those reported in the media or claimed by the Houthi-Saleh alliance (shown as an alphabetical serial).

Table 34.4

Details of confirmed and reported Houthi missile and FFR attacks against Saudi Arabia (June 2015 – 18 December 2017)

Serial				Coordinates (° ' ")[12]					
KSA Confirmed[11]	Reported	Date	Likely missile type	Launch point	Patriot interception	Impact point	Probable target	Distance (km)	Location / Remarks
1		6 Jun 2015		16 35 36N 43 43 06E	N 18 08 03 E 42 25 51		Khamis Mushayt	219	
2	A	29 Jun 2015	SCUD	16 32 50N 44 07 39E		19 11 15N 45 01 15E	Sulayyil base	308	
3	B	26 Aug 2015	Qaher-1	15 18 05N 44 12 54E	16 51 23N 42 41 22E		Jizan	238	Jazan
4	C	15 Oct 2015	SCUD	15 18 49N 44 12 52E		18 56 48N 42 41 58E	Khamis Mushayt	435	
	D	4 Dec 2015	Qaher-1			16 53 59N 44 35 01E	Jazan airport		Coordinates are centre of target and not impact point.
	E	9 Dec 2015	Qaher-1			16 53 57N 44 33 26E	Jazan		Coordinates are centre of target and not impact point.
	F	9 Dec 2015	Qaher-1			16 53 57N 44 33 26E	Jazan		Coordinates are centre of target and not impact point.
99	G	13 Dec 2015	Qaher-1	16 25 40N 44 08 08E		18 18 17N 42 43 54E	Khamis Mushayt		
5		14 Dec 2015		Unidentified		18 27 32N 42 41 58E	Khamis Mushayt		
	H	18 Dec 2015	Qaher-1			17 33 19N 44 14 33E	Najran		Impacted east of town
	I	19 Dec 2015	Qaher-1			17 33 19N 44 14 33E	Najran		Impacted near museum
	J	19 Dec 2015	Qaher-1	15 23 41N 44 10 10E		16 30 41N 42 58 24E	Al-Wahal BCP		Coordinates are centre of target and not impact point

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[11] In either table 42.2 of S/2017/81 or letter to the Panel dated 4 October 2017.

[12] The coordinates provided by the Saudi Arabian authorities are predominantly based on those from the Shared Early Warning System (SEWS) data.

Serial				Coordinates (° ' ")					
KSA Confirmed[12]	Reported	Date	Likely missile type	Launch point	Patriot interception	Impact point	Probable target	Distance (km)	Location / Remarks
	K	20 Dec 2015	Qaher-1			18 18 19N 42 44 43E	Khamis Mushayt airport		Coordinates are centre of target and not impact point.
6	L	21 Dec 2015	Qaher-1	15 23 41N 44 10 10E	16 43 53N 42 44 22E		Jazan	213	
7	M	21 Dec 2015	Qaher-1	15 24 48N 44 13 05E	16 52 08N 42 41 01E		Jazan airport	230	
99	N	23 Dec 2015	Qaher-1	16 26 05N 443 03 55E	18 18 19N 42 43 43E		Jazan Aramco	?	
8		25 Dec 2015	Qaher-1	16 26 05N 44 03 55E		18 30 49N 42 49 31E	Jazan	266	Landed north of Khamis Mushayt town
O	O	26 Dec 2015	Qaher-1	15 15 48N 44 14 05E	Reported destroyed in flight		Najran		
9	P	27 Dec 2015	SCUD	15 54 20N 43 59 51E	17 54 38N 44 10 14E		Najran	226	Najran
	Q	27 Dec 2015	Qaher-1			16 53 47N 44 33 26E	Jazan		Coordinates are centre of target and not impact point.
	R	28 Dec 2015	Qaher-1		Reported destroyed in flight		Najran		
	S	30 Dec 2015	Qaher-1		Reported destroyed in flight				
10	T	31 Dec 2015	Qaher-1	N 15 19 42 E 44 04 33	N 17 00 06 E 43 02 06			217	Jazan
11	U	1 Jan 2016	Qaher-1	16 41 43N 43 51 51E		17 59 39N 42 49 26E	Khamis Mushayt	182	
12		7 Jan 2016	Qaher-1	15 00 08N 44 13 35E	16 50 16N 42 38 47E		Jazan	265	
13		28 Jan 2016	Qaher-1	14 59 08N 44 20 23E		17 34 51N 44 43 39E	Khamis Mushayt	292	Disappeared from radar screen
	V	8 Feb 2016	Qaher-1			18 18 19N 42 44 43E	Khamis Mushayt airport		Coordinates are centre of target and not impact point.

Serial				Coordinates (° ' ")					
KSA Confirmed	Reported	Date	Likely missile type	Launch point	Patriot interception	Impact point	Probable target	Distance (km)	Location / Remarks
14	W	8 Feb 2016	Qaher-1	16 25 39N 44 08 34E	18 00 43N 42 52 06E		Abha	222	
15	X	9 Feb 2016	Qaher-1	15 20 50N 44 02 33E	16 59 28N 42 29 06E		Jazan	248	
16		11 Feb 2016	Qaher-1	15 22 55N 44 09 29E		17 02 45N 42 27 15E	Jazan	269	Exploded in the air
17	Y	13 Feb 2016	Qaher-1	16 24 23N 44 04 51E	18 05 56N 42 45 56E		Abha	234	
18	Z	9 May 2016		16 23 52N 44 05 01E	18 16 48N 42 55 50E		Khamis Mushayt	252	
19	AA	9 May 2016		16 40 05N 43 50 53E		18 20 43N 42 22 57E	Najran	243	Disappeared from radar screen
	AB	13 May 2016	Qaher-1			16 53 47N 44 33 26E	Jazan		Coordinates are centre of target and not impact point
	AC	20 May 2016	Qaher-1			16 53 47N 44 33 26E	Jazan		Coordinates are centre of target and not impact point
20	AD	30 May 2016	Qaher-1	15 29 57N 44 05 27E	17 00 53N 44 22 11E		Najran	171	
	AE	6 Jun 2016	SCUD		Reported destroyed in flight		King Khalid airbase		
21	AF	4 Jul 2016	Qaher-1	16 43 42N 43 50 27E	18 17 22N 42 39 55		Abha	214	
22	AG	23 Jul 2016	Qaher-1	Unidentified	17 34 34N 44 09 03E		Najran		
23		27 Jul 2016	Qaher-1	16 37 41N 43 50 44E		17 56 47N 43 15 23E	Khamis Mushayt	159	
24	AH	10 Aug 2016	Qaher-1	16 49 17N 43 48 21E	17 44 43N 43 02 57		Khamis Mushayt	135	
25	AI	10 Aug 2016	Qaher-1	16 46 44N 42 48 23E	17 39 06N 43 07 24		Abha	103	
26		12 Aug 2016	Qaher-1	15 52 24N 43 05 57E		Unidentified	Jazan		

Serial				Coordinates					
KSA Confirmed	Reported	Date	Likely missile type	Launch point	Patriot interception	Impact point	Probable target	Distance (km)	Location / Remarks
27		13 Aug 2016	Qaher-1	16 44 54N 43 46 29E	18 18 04N 42 40 48		Abha	208	
	AJ	16 Aug 2016	Qaher-1			18 20 43N 42 22 57E	Najran		Seven reported civilian fatalities
	AK	19 Aug 2016	Qaher-1		Reported destroyed in flight		Khamis Mushayt		
28		25 Aug 2016		15 16 29N 44 03 45E	16 40 03N 42 45 50E		Jazan	208	
	AL	26 Aug 2016	SCUD			16 52 55N 42 33 44E	Jizan Hamiyej Power Station		Coordinates are centre of target and not impact point.
29		30 Aug 2016		15 55 09N 43 11 19E		18 16 37N 42 19 20E	Landed in Aqabat al-Sima' (Abha)	278	
	AM	31 Aug 2016	Zelzal-3			18 20 43N 42 22 57E	Najran		Coordinates are centre of target and not impact point.
	AN	2 Sep 2016	SCUD			21 28 58N 40 32 39E	King Fahid airbase		Coordinates are centre of target and not impact point.
	AO	10 Sep 2016	SCUD				Asir province		
	AP	10 Sep 2016	SCUD			17 39 46N 42 03 44E	Al Shqaigh water plant		
30		11 Sep 2016		15 56 01N 43 58 06E		16 48 34N 43 05 46E	Jazan	135	
31	AQ	12 Sep 2016	SCUD	16 49 03N 43 43 56E	17 57 13N 43 00 18E		Khamis Mushayt	148	
	AR	4 Oct 2016	Zelzal-3				Al Montazah		
	AS	8 Oct 2016	Qaher-1			18 18 17N 42 43 54E	Khamis Mushayt		Coordinates are centre of target and not impact point.
99	AT	9 Oct 2016		16 44 33N 43 49 10E	21 28 36N 40 27 18E		Ta'if	634	
	AU	20 Oct 2016				16 53 47N 44 33 26E	Jazan		Coordinates are centre of target and not impact point.
	AV	20 Oct 2016				18 20 43N 42 22 57E	Najran		Coordinates are centre of target and not impact point.

Serial				Coordinates (° ' '')					
KSA confirmed?	Reported	Date	Likely missile type	Launch point	Patriot interception	Impact point	Probable target	Distance (km)	Location / Remarks
99	AW	27 Oct 2016		17 03 14N 43 23 33E		22 02 50N 39 52 14E	Khulays governorate, Ta'if	667	
	AX	1 Nov 2016				16 53 47N 44 33 26E	Jazan		Coordinates are centre of target and not impact point
	AY	1 Nov 2016				18 20 43N 42 22 57E	Najran		Coordinates are centre of target and not impact point
	AZ	1 Nov 2016					Asir province		
	BA	15 Nov 2016	OTK-21 Tochka		Reported destroyed in flight		Najran		
	BB	15 Nov 2016	OTK-21 Tochka		Reported destroyed in flight		Najran		2nd ER reported
	BC	26 Nov 2016			Reported destroyed in flight		Khamis Mushayt		
	BD	27 Jan 2017			Reported destroyed in flight		Najran		
	BE	30 Jan 2017				13 56 41N 42 45 36E	Zuqar Island		
99		5 Feb 2017	ER	17 07 09N 43 33 39E		24 20 32N 46 19 04E	Muzahimiyah	852	
32		14 Feb 2017		16 35 35N 43 53 45E	18 10 55N 42 39 09E		Khamis Mushayt	221	
33		18 Feb 2017		16 46 28N 43 48 48E		17 38 50N 42 08 20E	Abha	201	
34		16 Mar 2017		14 52 29N 42 58 29E	16 37 11N 42 36 45E		Ta'if	198	
35		19 Mar 2017		15 32 43N 44 10 17E	16 52 17N 43 02 28E		Jazan	191	
36		27 Mar 2017		16 37 50N 43 52 20E	17 57 09N 43 26 43E		Khamis	154	

Serial				Coordinates (° ' ")						
KSA Confirmed/	Reported	Date	Likely missile type	Launch point	Patriot interception	Impact point	Probable target	Distance (km)	Location	Remarks
37		27 Mar 2017		16 37 50N 43 52 20E	18 18 33N 43 30 28E		Najran	191		
38		27 Mar 2017		16 38 14N 43 51 25E	18 08 00N 42 54 00E		Najran	166		
39		19 May 2017		16 37 14N 43 51 28E	17 59 52N 43 19 28E		Najran	163		
40		4 Feb 2017		17 03 47N 43 36 29E	22 12 57N 45 37 55E		Khamis Mushayt			
41		14 Feb 2017		16 35 35N 43 53 45E	18 10 55N 42 39 09E		Khamis Mushayt	221		
42		18 Feb 2017		16 46 28N 43 48 48E		17 38 50N 42 08 20E	Shuqayq	203		
43		16 Mar 2017		14 52 29N 42 58 29E	16 37 11N 42 36 45E		Jazan	198		
44		19 Mar 2017		15 32 43N 44 10 17E	16 51 17N 43 02 28E		Jazan	189		
	BF	20 Mar 2017			Reported destroyed in flight		Najran			
45	BG	27 Mar 2017	Qaher-1	16 37 50N 43 52 20E	17 57 09N 43 26 43E		Khamis Mushayt	157		
46	BH	27 Mar 2017	Qaher-1	16 37 50N 43 52 20E	18 18 33N 43 30 28E		Khamis Mushayt	191		
47	BI	27 Mar 2017	Qaher-1	16 38 14N 43 51 25E	18 08 00N 42 54 00E		Abha	195		
48	BJ	27 Mar 2017	Qaher-1	16 37 14N 43 51 28E	17 59 52N 43 19 28E		Khamis	163		
49		19 May 2017	SCUD	17 03 47N 43 36 29E	22 12 57N 45 37 55E		Najran			
50	BK	19 May 2017	ER	17 07 10N 43 36 57E		24 03 54N 46 24 28E	Riyadh governorate	825		
51	BL	22 Jul 2017	Borkan-2H	17 04 04N 43 51 08E		23 58 55N 38 14 26E	Yanbu'	965		

Serial				Coordinates (° ' ")					
KSA Confirmed[a]	Reported	Date	Likely missile type	Launch point	Patriot interception	Impact point	Probable target	Distance (km)	Location/Remarks
52	BM	26 Jul 2017	SCUD-C type	16 23 36N 44 05 03E	21 23 46N 40 34 10E		Ta'if	668	Warhead is cluster munition type from a SCUD-C type
53		7 Aug 2017		18 04 46N 45 00 02E		16 32 03N 42 48 33E	Jazan	289	
54		27 Aug 2017		18 04 46N 43 03 26E	18 13 80N 42 31 26E			58	
	BN	27 Oct 2017				22 12 57N 45 37 55E	Najran		
99	BO	4 Nov 2017	Borkan-2H	15 57 09N 43 48 13E	Reported destroyed in flight	24 56 27N 46 43 29E	Riyadh, King Khaled airbase	820+	
	BP	30 Nov 2017			Reported destroyed in flight		Khamis Mushayt		
100	BQ	19 Dec 2017	Borkan-2H				Riyadh	1,000+	

Annex 35: SCUD-C type modification programme

I. Background

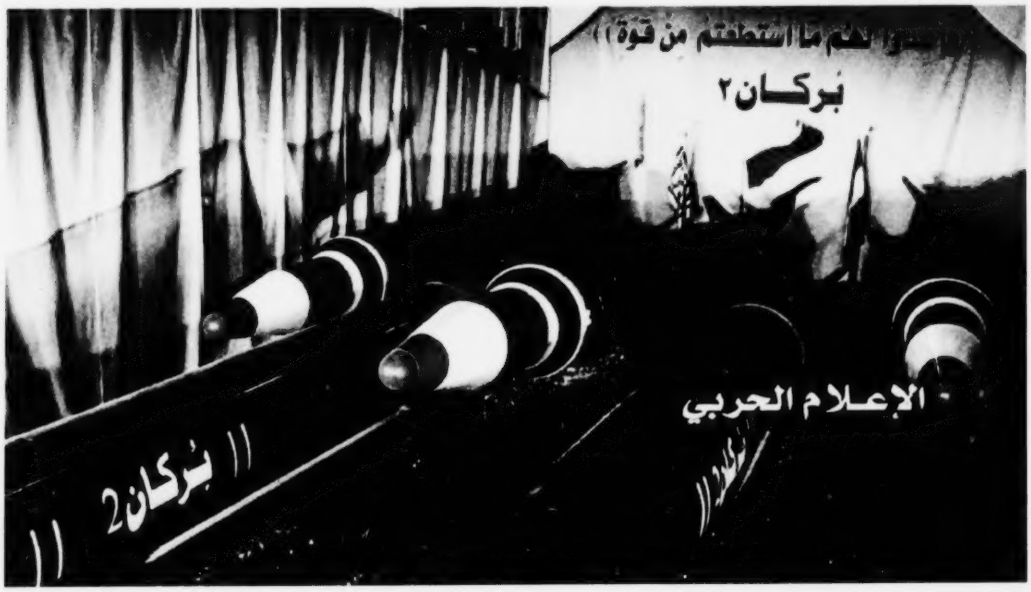
1. The first time an SRBM was launched with an extended range (ER-SRBM) beyond that normally expected of the known missiles in the Houthi-Saleh inventory was on 9 October 2016. Since then there has been four confirmed launches of SRBM with a range slightly in excess of the known maximum range of 550km to 600km for this SRBM type (see table 35.1).

Table 35.1
Confirmed Houthi-Saleh SCUD-C launches (>600km)

Ser	Date	Target	Range (Km)	Remarks
1	9 Oct 2016	Ta'if	634	• Reported as intercepted by Patriot MIM-104 system
2	27 Oct 2016	Ta'if	667	•
3	19 May 2017	Najran	611	• Reported as intercepted by Patriot MIM-104 system
4	26 Jul 2017	Ta'if	668	• Warhead is a cluster munition type from SCUD-C type (see paragraph 6)

2. The Panel finds that it is almost certain that these particular missiles were not the ER-SRBM (at annex 36), but rather as a result of minor modifications being made to the SCUD-C type SRBM known to be in the possession of the Houthi-Saleh alliance prior to January 2015. It is possible that this is the missile the Houthis refer to as the Borkan-2 (see figure 35.1).

Figure 35.1
Houthi media image of Borkan-2



II. Technical options to extend range

3. The Panel assesses that the only realistic technical options to extend the range[1] of the SCUD-C type SRBM, are limited to:

(a) Reducing the explosive weight within the warhead to virtually nil;

(b) Reducing component weight;

(c) Increasing the liquid bi-propellant capacity of an SRBM by adding additional fuel and oxidizer tanks; or

(d) Increasing the liquid bi-propellant capacity of an SRBM by adding larger fuel and oxidizer tanks in place of the current tanks.

A. Reduction of warhead weight

4. The removal of the high explosive warhead would save, dependent on the SRBM type, approximately 600kg in weight. A significant proportion of the weight of the missile consists of the liquid bi-propellant (65%) and warhead (10% - 15%). The majority of the propellant expended launching the SRBM along the first phase of its trajectory in order to gain height above ground and counter the force of gravity; hence the missile is continually losing weight as the propellant burns. Therefore, in theory, a noticeable range increase could be achieved by the removal of the warhead weight, as this would be less weight that is needed to be lifted against the force of gravity. Even without a warhead, the damage caused entirely by the kinetic energy of the missile body impacting the ground would be localized, but significant.

5. As one of the aims of the Houthi-Saleh missile campaign is strategic propaganda, then the loss of any warhead damage is insignificant to them. Appendix 1 shows the weight of propellant and warheads for each of the SRBM in the possession of Houthi-Saleh forces at the outbreak of the conflict. This data supports the finding that extended range for these particular SRBM types may be being gained by removing the explosive from the warheads SCUD-C type missiles in their arsenal.[2]

6. Evidence of a programme to lighten the load of these SRBM in order to extend range is the use of a carrier warhead for sub-munitions, as identified by the Panel from the remnants of the launch against Ta'if on 26 July 2017 (figure 35.2).

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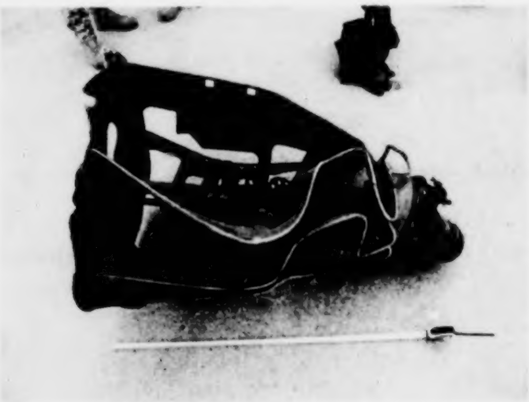
[1] Due to the differential in altitude above sea level (ASL) a missile fired from the higher altitude of Yemen (approx. 2,250m ASL) against Riyadh (610m ASL) there would be a very limited range extension of only 1.4km.

[2] The removal of the warhead would alter the centre of gravity of the missile. Computational fluid dynamics (CFD) modeling may be required to confirm how much ballistic stability would be retained in flight, and what extended range could be expected.

Figure 35.2
SCUD C type sub munition warhead (Ta'if, 26 July 2017)[3]



2. Reducing component weight

7. A reduction in the weight of components would result in an incremental, but small, increase in the theoretical maximum range of the missile system. This was certainly done in the case of the SRBM fired against Ta'if on 22 July 2017. Among the remnants of this SRBM the Panel identified that the compressed air bottles used to pressurise the fuel system were made of a composite material, rather than the steel of the standard SCUD-C type system (figures 35.3 and 35.4). The compressed air bottles used were modern and manufactured by a United States company, Mine Safety Appliances Incorporated,[4] or one of their subsidiaries. The response from the manufacturer to a Panel tracing request for this component[5] included a comment that the component was mass-produced and no serial numbers were allocated.

Figure 35.3
MSA composite compressed air bottles

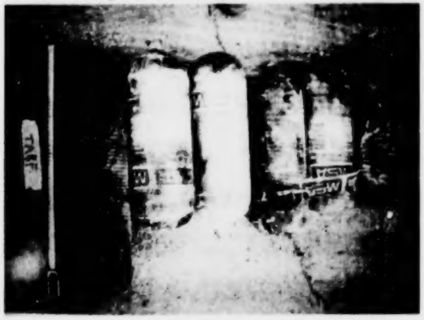
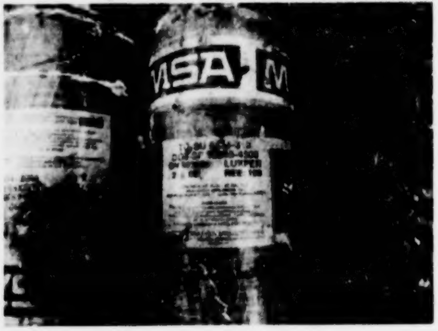


Figure 35.4
MSA composite compressed air bottles



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[3] All imagery taken by Panel unless otherwise indicated. This image was from a confidential source

[4] http://us.msasafety.com/Supplied-Air-Respirators-%28SCBA%29/SCBA-Parts-%26-Accessories/Air-Cylinders/p/000010000800002001

[5] Panel letter dated 20 November 2017

3. Increasing liquid propellant capacity (additional fuel and oxidiser tanks)

8. A small increase in the liquid bi-propellant capacity of an SRBM could be achieved by adding additional small fuel and oxidizer tanks in any free space within the missile body. Such free space is very limited though, and the installation of the necessary piping and valves to integrate with the designed fuel flow system would require a significant degree of engineering expertise to achieve in practice. The Panel has seen no evidence of this approach being taken.

4. Increasing liquid propellant capacity (larger fuel and oxidiser tanks)

9. A larger increase in the liquid bi-propellant capacity of an SRBM would be achieved by adding larger fuel and oxidizer tanks, in place of the current tanks. This would require a significant degree of engineering expertise to achieve as it would require cutting the missile in half to add the extended range tanks and additional pipe lengths and valves. It is part of the route taken by the Democratic People's Republic of North Korea (DPRK) in the development of the Hwasong-7 and Hwasong-9 extended range SCUD variants.[6] Outside the DPRK only Syria has been reported to own such a system. The Panel finds that the Houthi has not taken this approach, as the dimensions of the liquid propellant tank remnant inspected from the Ta'if SRBM fall within those of the normal SCUD-C type SRBM.

III. IHL non-compliance

10. The Panel finds that in their use of SRBM, Houthi-Saleh forces failed to take account of the inherently indiscriminate nature of the weapon in that:

(a) Since the blast and fragmentation danger areas are primarily based on the size and design of the explosive warhead, this missile's likely impact on civilians was foreseeable, especially when directed at civilian populated areas; and

(c) As such weapons have a known Circular Error Probability (CEP)[7] of up to 1,000m, they should not be used against targets within 1,000m of the civilian population.

IV. Panel findings

11. The Panel finds that:

(a) The SRBM used for the attack against Ta'if, Saudi Arabia on 26 July 2017 was highly probably a SCUD-C / Hwasong-6 type SRBM with minor modifications to save weight, thus slightly increasing range;

(b) Based on the ranges achieved, it is highly likely that the other attacks listed in table 35.1 were also locally modified SCUD-C / Hwasong-6 type SRBM and not the ER-SRBM covered at annex 36;

(c) It is possible that the Houthi-Saleh missile engineers of the 5th and 6th missile brigade would have the technical capacity to make such minor modifications with little, or no, external assistance;

(d) It is almost certain that the minor modifications made to the SCUD-C / Hwasong-6 type SRBM would not result in the necessary increase in range to target the Riyadh area.

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[6] https://missilethreat.csis.org/missile/scud-er

[7] The CEP is a measure of a weapon system's precision. It is defined as the radius of a circle, centered on the mean, whose boundary is expected to include the landing points of 50% of the missiles fired.

Appendix A to Annex 35: Analysis of Houthi-Saleh SRBM weights versus extended range

Table A.35.1

Weight of liquid bi-propellant and explosive warheads in Houthi-Saleh SRBM

		SCUD-B		*SCUD-C*		*Hwasong-5*		*Hwasong-6*	
Item	*Nomenclature*	*Tonnes*	*Litres*	*Tonnes*	*Litres*	*Tonnes*	*Litres*	*Tonnes*	*Litres*
Fuel	Kerosene (TM-185)[8]	1.31	1,617	1.81	2,235	1.31	1,617	1.81	2,235
Oxidiser	IRFNA[9] (AK-271)	2.45	1,815	2.53	1,874	2.45	1,815	2.53	1,874
Total	Bi-Propellant	3.76	3,432	4.34	4,109	3.76	3,432	4.34	4,109
Warhead		0.99		0.60		0.99		0.77	
Launch Weight[10]		5.90		6.40		5.90		*6.57 (est)*	
% Weight Saving		16.7%		**9.4%**		16.7%		**11.7%**	
Design Range (km)		300		**600**		350		**600**	

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[8] JET A-1 could be used as a substitute. It is the standard aviation fuel for turbo engines and available in Yemen.

[9] Inhibited Red Fuming Nitric Acid.

[10] This is the weight of the bi-propellant, warhead and the missile components (e.g. rocket motor, guidance unit, missile body).

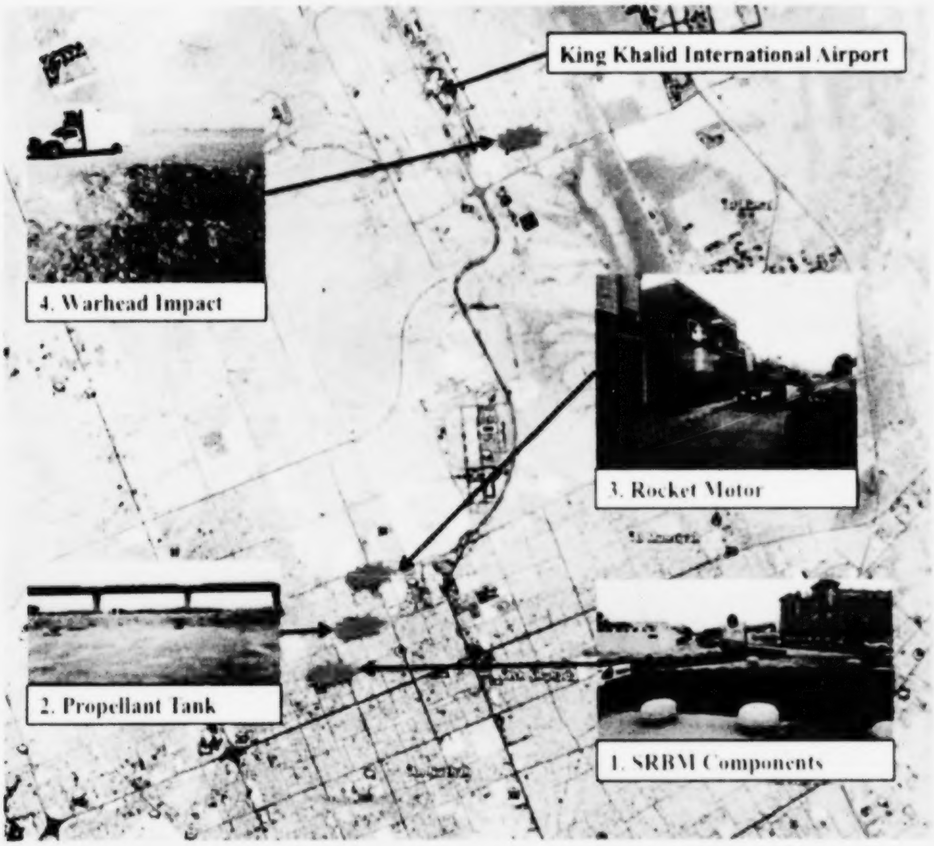
Annex 36: Extended Range (ER) Short Range Ballistic Missile (Borkan-2H)

I. Introduction

1. The Panel travelled to Riyadh, Saudi Arabia from 17 to 21 November 2017 to inspect debris recovered from short-range ballistic missiles (SRBM) attacks launched against Saudi Arabia by Houthi-Saleh forces on 19 May, 22 July, 26 July and 4 November 2017. The Saudi Arabian authorities recovered all components unless otherwise indicated. The Panel also visited Saudi Arabia from 24 – 26 December 2017 to inspect remnants of a further SRBM attack on Riyadh on 19 December 2017.

2. The Panel visited two Saudi Arabian military bases where the authorities had gathered remnants from four SRBM attacks against Saudi Arabia. The Panel also visited four impact points from the 4 November 2017 attack, where other remnants of the SRBM were identified. These being inside Riyadh city and King Khaled International Airport (KKIA) (see figures 36.1 and 36.2).

Figure 36.1
Impact points of final ER-SRBM track (4 November 2017)[1]



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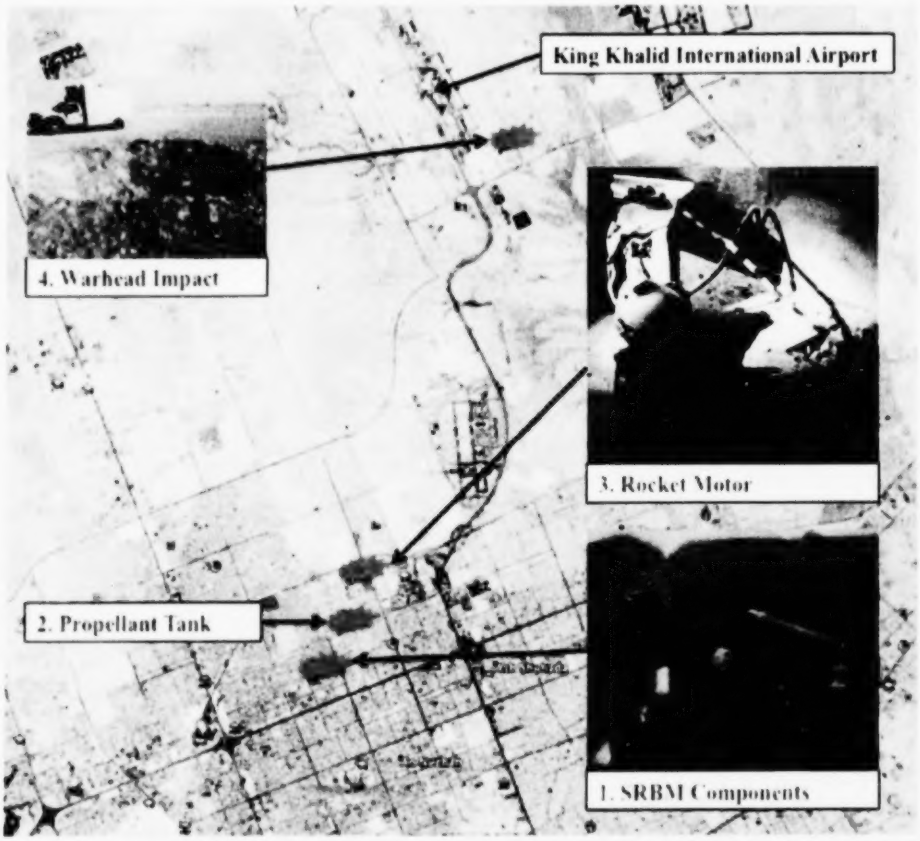
[1] All imagery taken by Panel unless otherwise indicated.

Figure 36.2
Remnants identified along final ER-SRBM track (4 November 2017)[2]


King Khalid International Airport
4. Warhead Impact
3. Rocket Motor
2. Propellant Tank
1. SRBM Components

II. Initial observations

3. The launch and impact points are at table 36.1. The Panel made the following initial general observations on the condition of the SRBM remnants (table 36.2):

Table 36.1
Launch and impact points

Attack date	*Target*	*Launch point*	*Impact point*	*Remarks*
19 May 2017	Southern Riyadh Province	17°03'47"N, 43°26'29"E	24°03'54"N, 46°24'28"E	
22 Jul 2017	Yanbu	17°04'04"N, 43°51'08"E	23°49'29"N, 38°23'47"E	
26 Jul 2017	Taif	16°23'36"N, 44°05'03"E	21°23'46"N, 40°34'10"E	

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[2] Images taken by Saudi Arabia security agencies immediately after attack

Attack date	*Target*	*Launch point*	*Impact point*	*Remarks*
4 Nov 2017	Riyadh	15°57'59"N, 43°48'13"E	24°56'27"N, 46°43'29"E	Impact point of warhead Launch point based on Patriot data
19 Dec 2017	Riyadh	16°39'51"N, 43°52'13"E	24°35'43"N, 46°38'17"E[3]	After intercept. Two impact points for Patriot intercept missile debris were identified. No ER-SRBM debris has yet been identified.

Table 36.2

General observations on all missile remnants inspected in Saudi Arabia by the Panel

Attack date	*Target*	*Approximate range (km)*	*Location of remnants inspected*	*General observations on SRBM remnants*
19 May 2017	Southern Riyadh Province	838	Military base, 100km from Riyadh	Partial inspection due to time constraints and inaccessibility of components. No conclusions made.
22 Jul 2017	Yanbu	942	Military base, Riyadh	Rear section, comprising elements of rocket motor, recovered from immersion in water by the Saudi authorities. Partial inspection only possible.
26 Jul 2017	Taif	668	Military base, 100km from Riyadh	Several components, including only remnant of warhead and guidance section recovered by the Saudi authorities. Subsequent Panel analysis identified this was not an ER-SRBM (see annex 35).
4 Nov 2017	Riyadh	1,043	Military base, Riyadh	The most complete SRBM with extensive and well-preserved remnants. Full inspection by Panel.
19 Dec 2017	Riyadh	965	Riyadh area	No ER-SRBM debris yet identified.

III. Analysis of SRBM tracks

A. 4 November 2017 ER-SRBM against Riyadh

4. The Saudi Arabian authorities provided the Panel with the coordinates of the ER-SRBM flight path based on data from the target event report from the Patriot anti-missile system.[4] The Panel confirmed the track of the ER-SRBM (figure 36.3) through extrapolation of the identified four points of debris impact. The track was assessed as being 017° and which bisects the Saudi Arabian provided launch coordinates, which are for the settlement of al-Mayqa' in Amran governorate of Yemen. Based on the high intensity presence of Saudi Arabian armed forces along that track inside Saudi Arabian held territory within Yemen, the Panel finds it almost certain that the ER-SRBM for the 4 November 2017 attack could not have been covertly launched from a closer range within Saudi Arabian territory.

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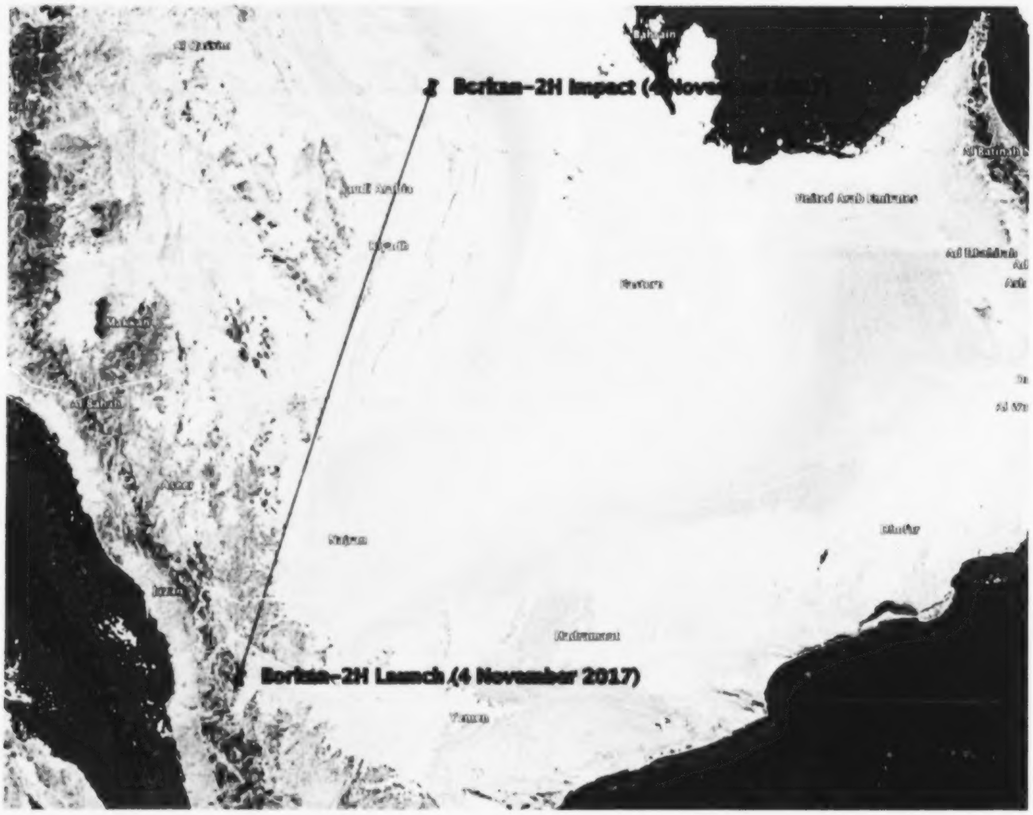
[3] Other impact point at 24°33'45"N, 46°38'13"E.

[4] The Shared Early Warning Systems (SEWS) data estimates a launch point one degree of longitude further North which would mean a range of 937km.

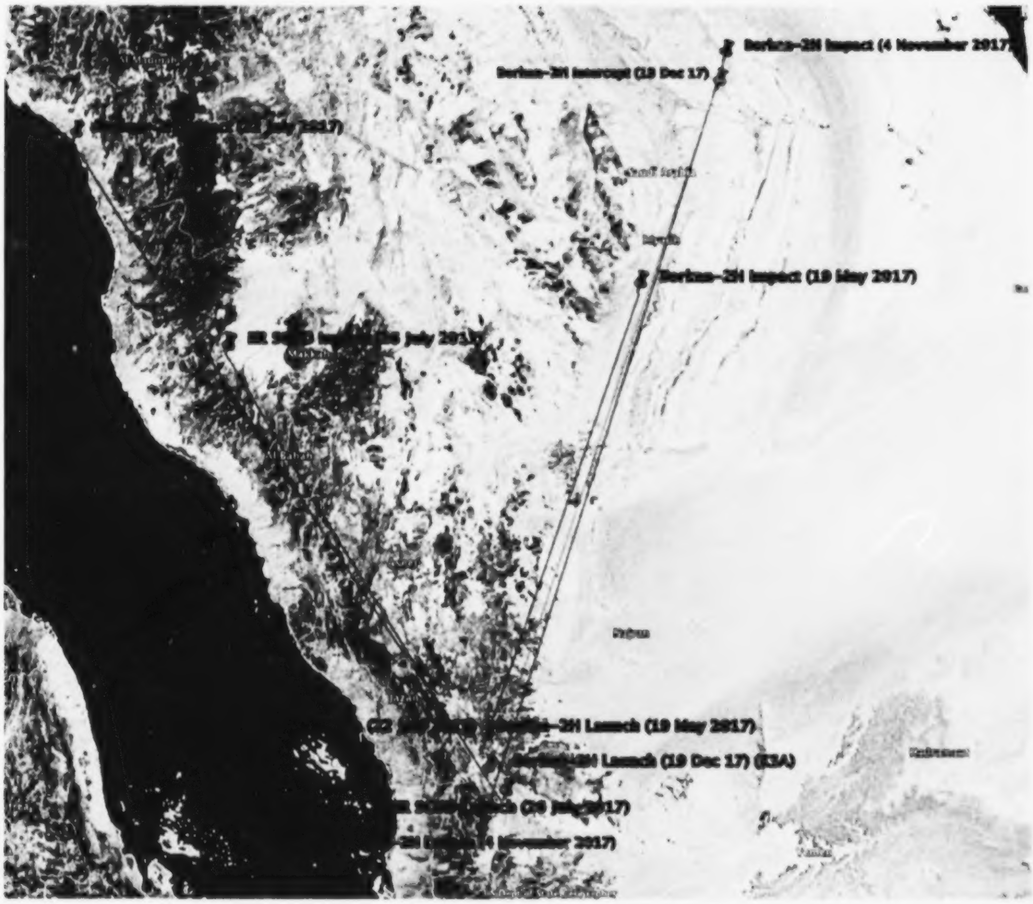
Figure 36.3
Estimated ER-SRBM track from launch to impact


Bahrain
Borkan–2H Impact (4 Nove
Al Batinah
Saudi Arabia
United Arab Emirates
Riyadh
Makkah
Asir
Najran
Dhofar
Jazan
Hadramawt
Borkan–2H Launch (4 November 2017)
Yemen

B. Reported tracks for all ER-SRBM launches

6. The Panel was unable to independently verify the tracks of the other four ER-SRBM provided by the Saudi Arabian authorities. The Saudi Arabian authorities have reported them as being as shown in figure 36.5.

Figure 36.5
Reported tracks of other SRBM[5]


Borkan-2H Impact (4 November 2017)
Borkan-2H Intercept (19 Dec 17)
Al Madinah
(22 July 2017)
Borkan-2H Impact (19 May 2017)
ER SRBM Impact (26 July 2017)
Makkah
Al Bahah
Najran
Jazan
2H Launch (19 May 2017)
Launch (19 Dec 17) (83A)
Launch (26 July 2017)
2H Launch (4 November 2017)

IV. Technical analysis of remnants

7. Table 36.3 summarises the technical observations of the Panel for the 4 November 2017 Riyadh ER-SRBM. This analysis will be further refined should any response to tracing requests be received. Supporting imagery and further explanation is at appendix A. Table 36.4 summarises the technical observations of the Panel for the 22 July 2017 Yanbu ER-SRBM. Confirmatory imagery from the 22 July Yanbu ER-SRBM is at appendix B.

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[5] The Panel found that the 26 July 2017 was not an ER-SRBM, but a slightly modified SCUD-C/Hwasong-6. See details at annex 35

Table 36.3

Technical observations for the 4 November 2017 ER-SRBM

Serial	*Functional area*	*Component*	*General observations on ER-SRBM remnants*
1	Warhead	Warhead Cone	▪ Fragments of the warhead were recovered, but neither the shape nor design could be determined from them. ▪ The explosive weight of the warhead could not be determined from the fragmentation, and it is possible a reduced weight warhead was used as a weight saving measure to extend range.
2	Guidance Unit	Electronics	▪ One component had 2009 stamped on it, which is probably the year of manufacture of that component. ▪ The guidance unit is of a different, and more modern, design to that of the SCUD-C and Hwasong-6.
3	Missile Main Assembly (MMA)	Exterior skin	▪ The exterior skin of the oxidiser tanks is made of 5000 series of between 1.8mm to 2.1mm thickness aluminium alloy, rather than steel, which is used on the SCUD C, Hwasong-6 and Qiam-1 missiles. ▪ The welding of the MMA exterior skin was typical of that to be expected in a manufacturing plant. ▪ The welding used to join the oxidiser and fuel sections together and to the guidance and tail units was of a low quality and was not applied by the original manufacturer. It was artisanal welding. ▪ The exterior skin had been over painted blue, with Borkan 2-H (in Arabic) added in white. The quality of the over paint did not match the quality of the original manufacturers paint, which could be observed on parts of the missile body. ▪ The over paint of the artisanal welds used to join the main components showed brush strokes, as opposed to the general original body paint that had been sprayed on.
4	Missile Main Assembly (MMA)	Liquid propellant tanks	▪ The fuel tank is to the rear of the oxidiser tank, whereas in the SCUD and Hwasong-6 series of SRBM it is situated forward of the oxidiser tank. ▪ The oxidiser tank had internal aluminium alloy reinforcing ribs added to increase structural rigidity. ▪ The oxidizer tank was split in two internally to allow for the redistribution of oxidizer in flight to maintain a suitable centre of gravity, and hence ballistic stability. ▪ 6 valves were identified on the oxidiser tank sections. (*On the Yanbu 22 July 2017 SRBM three valves were identified on the fuel tank section*).[b] A SCUD-C type missile only has 4 x Valves (1 x FFV, 1 x FDV, 1 x OFV and 1 x ODV). See appendix 3.
5	Tail unit	Rocket Motor	▪ The rocket motor is typical in design of that to be found on the SCUD and Hwasong-6 series of SRBM. Further analysis is needed to identify if any modifications have been made to improve performance of the rocket motor.

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[b] The Panel's initial analysis is that for the complete missile system these may be 3 x Combined Drain and Fuel Filling Valves (DFFV), 3 x Vent Valves, 2 x Pressure Relief Valves (PRV) and 1 x Valve (purpose unknown). Panel investigations continue to determine the exact purpose of each valve.

Serial	Functional area	Component	General observations on ER-SRBM remnants
6	Tail unit	Jet vane housing internal control vanes	• Three jet vane housings had a logo cast in the metal. The logo reported[7] to be that of Shahid Bakeri Industries, Iran. A tracing request has been sent to the Islamic Republic of Iran.
7	Tail unit	Compressed air bottles	• The compressed air bottles recovered were made of carbon fibre and not the steel bottles expected from a SCUD C. The Panel assesses this was a design change to save weight.[8]
8	Tail unit	Stabiliser fins	• According to the Saudi authorities no stabiliser fins were recovered during their search. The Qiam-1 guidance system negates the need for stabiliser fins, which is also a weight saving measure.

Table 36.4

Technical observations for the 22 July 2017 ER-SRBM

Serial	Functional area	Component	General observations on ER-SRBM remnants
1	Missile Main Assembly (MMA)	Fuel tank	• A pipe from the fuelling valve of the fuel tank is in place to allow for fuelling in the horizontal position only. This has tactical advantages, allowing the missile to be fuelled in buildings or caves before being erected into its vertical launch position. • It would also have a secondary function as an anti-static measure during fuelling operations. • The welding of the MMA exterior skin was typical of that to be expected in a manufacturing plant. • The welding used to join the fuel tank to the tail section was of a low quality and was almost certainly not applied by the original manufacturer. It was artisanal welding. • The exterior skin of the fuel tanks is made of 5000 series of between 1.8mm to 2.1mm thickness aluminium alloy, rather than steel, which is used on the SCUD C, Hwasong-6 and Qiam-1 missiles.
2	Tail unit	Rocket Motor	• The rocket motor is typical in design of that to be found on the SCUD and Hwasong-6 series of SRBM. Further analysis is needed to identify if any modifications have been made to improve performance of the rocket motor.
3	Tail unit	Compressed air bottles	• The compressed air bottles recovered were made of carbon fibre and not the steel bottles expected from a SCUD C. The Panel assesses this was a design change to save weight.
4	Tail Unit	Wind-bolts[9]	• The Wind-bolt housing identified had metal covering the location where the fin would normally be located. There was no evidence of a fin ever having been removed.

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[7] The logo is very similar to that on trade stand at http://www.sns.co.ir/?p=327. The Iranian response to a tracing request stated that this was not the Sahid Bagheri Industrial Group (SBIG) as initially thought by the Panel. A second tracing request relating to Shahid Bagheri (Bakeri) Industries has been sent and a response is awaited.

[8] The composite bottles identified on the Ta'if SRBM (26 July 2017) were mass-produced by a US manufacturer. A tracing request was responded to by the US manufacturer who stated that the bottles were mass produced and that serial numbers were not allocated to each bottle produced.

[9] Four wind-bolts are used to secure the base of the missile to the launch platform to keep the missile secure during elevation and prior to firing. It is highly probable that these are explosively cut during the missile firing sequence.

Serial	*Functional area*	*Component*	*General observations on ER-SRBM remnants*
10	Tail unit	Stabiliser fins	• No stabiliser fins were recovered. The Qiam-1 guidance system negates the need for stabiliser fins, which is also a weight saving measure.

8. There are significant design differences to this SRBM compared to the SCUD-C / Hwasong-6 series of SRBM known to be in Houthi-Saleh possession since the imposition of the targeted arms embargo on 14 April 2015. The technical differences of this SRBM are of such significance, and would require complex ballistic modelling, extensive test and evaluation, that they highly unlikely to be the result of upgrades to the SCUD-C / Hwasong-6 series. The use of an aluminium alloy body, lack of fins and use of lighter components, such as the carbon fibre air bottles, all indicate design changes specifically made to save weight. The reversal of the positioning of the fuel and oxidizer tanks in the main missile assembly is most likely related to ensuring the centre of gravity is in a position to ensure stable flight. Table 36.5 summarises the design features and characteristics of the SCUD-C / Hwasong-6 versus Qiam-1 versus the Borkan-2H. These are illustrated at figure 36.6.

Table 36.5
Design feature comparison

Serial	*Functional area*	*Design Feature*	*SCUD-C*	*Hwasong-6*	*Qiam-1*	*Borkan-2H*
1	Warhead	Triconic warhead shape	X[10]	✓	✓	✓
2	Guidance Unit	Advanced guidance system	X	X	✓	✓
3A	Missile Main Assembly (MMA)	Steel airframe	✓	✓	✓	X
3B	Missile Main Assembly (MMA)	Aluminium alloy airframe	X	X	X	✓
3C	Missile Main Assembly (MMA)	Oxidiser tank (Front)	X	X	✓	✓
3D	Missile Main Assembly (MMA)	Fuel tank (Rear)	X	X	✓	✓
3E	Missile Main Assembly (MMA)	Horizontal fuelling capability pipe	X	X	✓	✓
3F	Missile Main Assembly (MMA)	Internal reinforcing aluminium alloy ribs	X	X	Not known	✓
3G	Missile Main Assembly (MMA)	Factory quality welding all over	✓	✓	✓	X
3H	Missile Main Assembly (MMA)	Artisan welding	X	X	X	✓
3I	Missile Main Assembly (MMA)	4 x liquid bi-propellant Filling/Draining Valves	✓	✓	X	X
3J	Missile Main Assembly (MMA)	9 x liquid bi-propellant Filling/Draining Valves, Pressure Relief valves (PRV) and other valves TBC.[11]	X	X	✓	✓

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immediately prior to launch

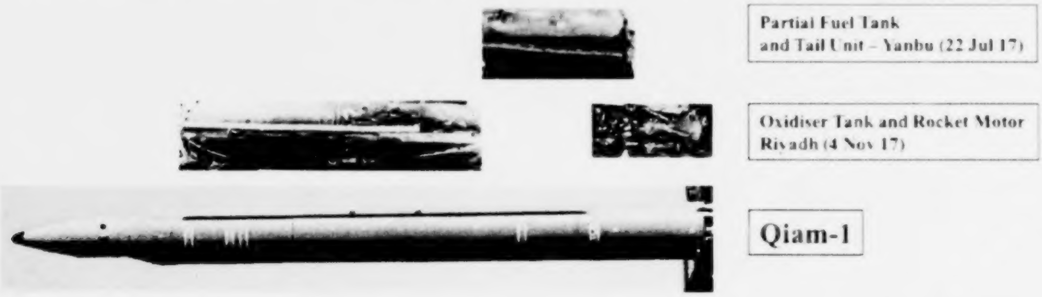
[10] X = Not Present

[11] See appendix 3 for comparison of valve layouts on missiles

Serial	*Functional area*	*Design Feature*	*SCUD C*	*Hwasong-6*	*Qiam-1*	*Borkan-2H*
4A	Tail unit	Rocket Motor	✓	✓	✓	✓
4B	Tail unit	Actuator for internal graphite control vanes	✓	✓	✓	✓
4C	Tail unit	Composite compressed air bottles	X	X	Not known	✓
4D	Tail unit	Wind-bolt housings covered	X	X	✓	✓
4E	Tail unit	Stabiliser fins	✓	✓	X	X

Figure 36.6

Major components and their relative position compared to a Qiam-1 SRBM[12]


Partial Fuel Tank
and Tail Unit – Yanbu (22 Jul 17)
Oxidiser Tank and Rocket Motor
Riyadh (4 Nov 17)
Qiam-1

9. Based on the components seen by the Panel and the design of the ER-SRBM, the Panel finds that SCUD C / Hwasong-6 missiles are not being modified into the Borkan-2H. The Panel does not discount the option that some components from these missile types are being used in the Borkan-2H though.

V. Estimation of warhead size

10. The crater size at KKIA (figure 36.7) for the 4 November 2017 Borkan-2H attack was estimated by photogrammetry as being 3.18m in diameter and 0.67m in depth. Explosive engineering software[13] predicts that an explosive mass of 45kg (TNT equivalent) (+/- 20%) would be required for the formation of a crater of these dimensions. Open source information states that the warhead size for the Qiam-1 is 750kg, so a reduction in warhead size has very probably been made as a further weight saving measure to increase range.

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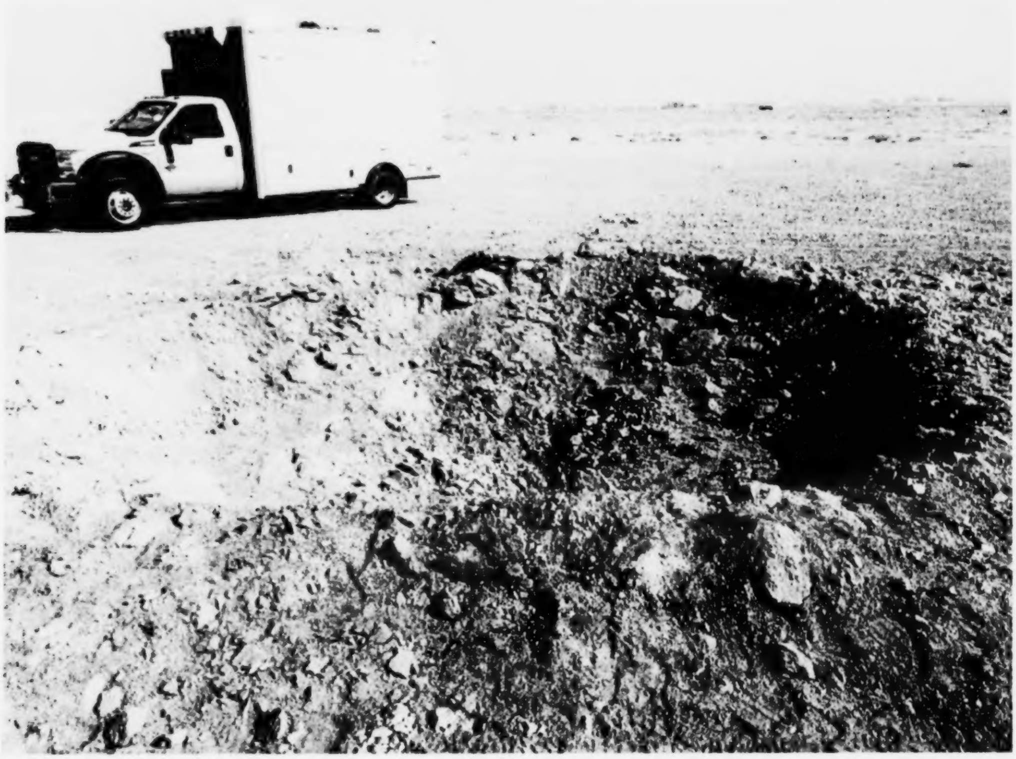
[12] Qiam-1 missile image from http://3.bp.blogspot.com/-qsK7VV6oZfc/TqIET0NxVdI/AAAAAAAAADo/NGlhWpeJTsw/s1600/Qiam-1.jpg.

[13] Explosive Engineers Toolbox. OnePoint4 Limited.

Figure 36.7
4 November 2017 crater at KKIA



VI. Source of the Borkan-2H

10. The Panel considers that it is unlikely that the Government of Yemen obtained any new extended range (ER) SRBM during the final years of Ali Abdullah Saleh's (YEi.003) presidency, which ended on 25 February 2012. His relationship with Iran was such that Iranian military support in terms of advanced ER-SRBM technology, particularly of a missile that had only just entered Iranian operational service during 2010, would almost certainly not be forthcoming. There is also no evidence of the supply of any advanced ER-SRBM technology to Yemen between the assumption of the Presidency by Abdrabbuh Mansur Hadi and 20 January 2015 when the Houthis took control.

11. During 20 January to 26 March 2015 there would have been a short window of opportunity to ship complete ER-SRBM to the Houthi-Saleh forces prior to the commencement of the Saudi Arabia-led coalition air campaign. This is also assessed as unlikely as: 1) the first launch of an ER-SRBM was not until either 9 October 2016, when a missile flew 634km,[14] or 5 February 2017 when an ER-SRBM impacted on Muzahimiyah (a flight of 852km); and 2) there would be no need to weld the missile sections together with artisanal welding. Furthermore, had the Houthi-Saleh forces access to ER-SRBM technology when the Saudi Arabia-led coalition air campaign started on 26 March 2015, then it is highly likely they would have used them in retaliatory attacks at that time. If this narrow window of opportunity was exploited then it is more likely that the Borkan-2H would have been shipped as complete missiles, negating the requirement to assemble them in Yemen in less than ideal conditions. The Panel thus considers that the component sections for these ER-SRBM were almost certainly shipped to Yemen in violation of the

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[14] This was the first reported impact of a SRBM beyond the maximum range of 600km for the SCUD-C or Hwasong-6.

targeted arms embargo of 14 April 2015. The Panel does not yet have prima facie evidence as to the identity of the supplier.

12. The Panel still considers it unlikely that complete ER-SRBM have been smuggled into Yemen post the implementation of the targeted arms embargo on 14 April 2015. Their size, being 12m x 1m when packed in a wooden crate, would have made them vulnerable to interdiction by Saudi Arabia-led coalition ground and naval forces. Whereas, if smuggled in main section form,[15] the largest section would be approximately 4m x 1m when packed in a wooden crate, which is a much more manageable and concealable size. The missile is not modular by design but the main sections could be shipped after manufacture by the factory for later assembly. The Houthi-Saleh missile engineers then assemble them into complete missiles and functionality test the systems to ensure reliability on launch. Evidence for this option includes the difference in weld quality between the main components themselves (factory quality) and the joints between the main components (poor quality), and the poor over paint quality in places. The missile when assembled is then referred to as the Borkan-2H by the Houthi-Saleh alliance. The Panel has not yet seen any evidence of external missile specialists working in Yemen in support of the Houthi-Saleh engineers.

13. The Panel thus finds that the Borkan-2H is not a missile type known to have been in the possession of the Yemeni Armed Forces prior to 2015. The design features (at table 36.5 above), technical characteristics and dimensions are consistent with those reported for the Iranian designed Qiam-1 missile (illustrated at figure X.6). Notwithstanding this, a major design difference between the Qiam-1 and the Borkan-2H is that the Qiam-1 is constructed of steel, compared to the aluminium alloy of the Borkan-2H. The Panel therefore finds that the Borkan-2H is an advanced derivative of the Iranian Qiam-1 specially designed with weight saving measures by the designers of the Qiam-1 to achieve the range of 1000+km. A standard Qiam-1 has a declared operational range of 750km.

14. Further evidence of Iranian manufacture of the Borkan-2H components is provided by two components inspected by the Panel:

(a) Three jet vane housings for the internal graphite control surface vanes are marked with a logo similar to that of Shahid Bagheri Industries.[16] This organization a subsidiary of the Iranian Aerospace Industries Organization (IAIO) (figures 36.8 to 36.10). The Panel has sent a tracing request to the Islamic Republic of Iran and is waiting for a response; and

(b) A printed circuit board (PCB) in a relay box marked SHIG 6081. The Panel believes SHIG is the abbreviation for the Shahid Hemat Industrial Group. It is a subsidiary of the Iranian Aerospace Industries Organization. The Panel has sent a tracing request to the Islamic Republic of Iran and is waiting for a response.

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[15] Those sections being a warhead, a guidance unit, a fuel tank, an oxidiser tank and a tail unit.

[16] Also known as the Shahid Bagheri Industrial Group (SBIG) and Shahid Bakeri Industries.

Figure 36.8

Jet vane housing with Shahid Bakeri Industries logo markings

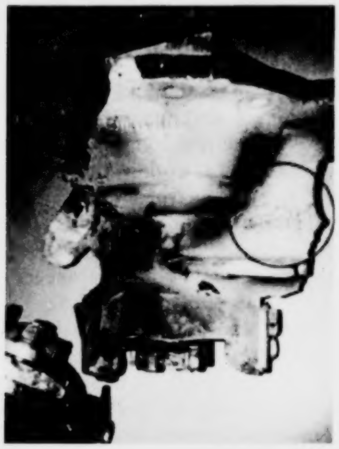
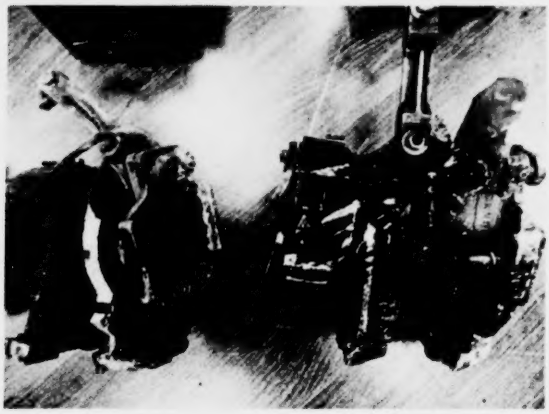


Figure 36.9

Shahid Bagheri Industries trade stand with logo[17]

Figure 36.10

Jet vane housing with Shahid Bagheri Industries logo markings



VII. Likely trafficking routes

15. The Panel thus considers there are now only likely to be three trafficking routes that explain the availability of this advanced ER-SRBM technology used in the Borkan-2H SRBM:

(a) Along the land route from the Omani border, or Ghaydah and Nishtun in Mahrah governorate after ship to shore transhipment to small dhows. A route that has already seen limited seizures of anti-tank guided weapons and also of liquid bi-propellant oxidiser field storage tanks (see appendix D). The Panel considers this route as the most likely option;

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[17] Source: http://www.sns.co.ir/?p=327.

(b) Through a Red Sea port in shipping containers, via a third country port and not on a vessel direct from the supplier, or as loose crates using false bills of lading, referring to, for example, agricultural machinery. This option carries a high risk of interdiction as all containers are now cross-loaded at either Jeddah or King Abdullah Port and are subjected to inspection by the Saudi Arabian authorities.[18] Prior to January 2017 Djibouti and Salalah, Oman were used as transhipment ports for containers, and only 25% were subjected to more detailed inspection.[19] It is possible shipments of ER-SBRM main sections were successfully shipped using this route prior to its closure. The Djibouti to Hudaydah container route is now effectively closed as subsequent delays to shipping due to frequent Saudi Arabia-led coalition re-inspections in the Coalition Holding Area (CHA) resulted in a significant increase in shipping costs;[20] or unlikely;

(c) Through a Red Sea port concealed within a bulk cargo carrier or even a fuel tanker. This route carries a high risk of detection by a Saudi Arabia-led coalition inspection in the CHA. In addition it would require that the illicit cargo be loaded onto a vessel with no recent calls at Iranian ports, or with Iranian connections, as such vessels are subjected to additional clearance research by UNVIM and the Saudi Arabia-led coalition naval vessels in the Coalition Holding Area (CHA).

16. The use of small fishing dhows being used across Red Sea beaches is not considered a very likely option due to the heavy naval presence of the Saudi Arabia-led coalition and Combined Maritime Forces (CMF) in the Red Sea and Gulf of Aden. No illicit arms shipments to Yemen have been detected on this route since 20 March 2016, and those detected have been assessed as being destined for Somalia.[21]

17. The detection of missile component shipments presents major challenges:

(a) The metal and carbon fibre composition of the components means that arms and explosive search (AES) dogs would not indicate that the component containers, likely wooden crates, were suspicious. Other than the warhead, which could be sent unfilled, there are no explosive or gun oil scents for the dogs to detect; and

(b) The x-ray profile of the ER-SRBM main sections may not be recognizable to all x-ray operators, although the warhead should raise suspicions. For example, the fuel and oxidizer tanks would appear similar to other commercial storage tanks.

VII. IHL aspects

20. In respect of the missiles fired at Saudi Arabia, the Panel cannot conclude that Abdulmalik al-Houthi (YEi.004) consented to each individual missile strike against Saudi Arabia. However, the Panel finds without a reasonable doubt that it is the policy adopted by the Houthi leadership that allows for the continued use of these missiles against Saudi Arabia. Given the foreseeable political and military repercussions, it is unlikely that the missile launched on 4 November 2017 at King Khalid International Airport, could have taken place without the knowledge and prior consent of Abdulmalik al-Houthi (YEi.004). The Panel has concluded that this missile strike violated IHL, in that it targeted a civilian airport, and constitutes a threat to peace, security and stability of Yemen. (See more detailed IHL analysis at annex 64).

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[18] Source: UNVIM

[19] Ibid.

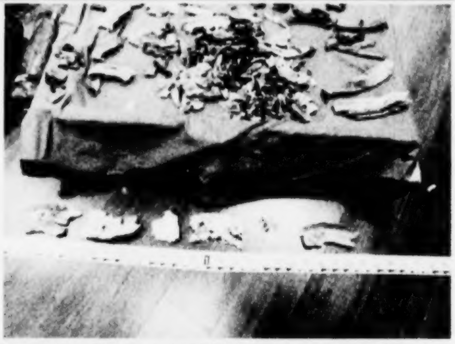
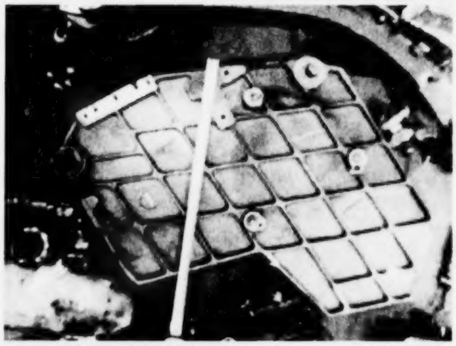
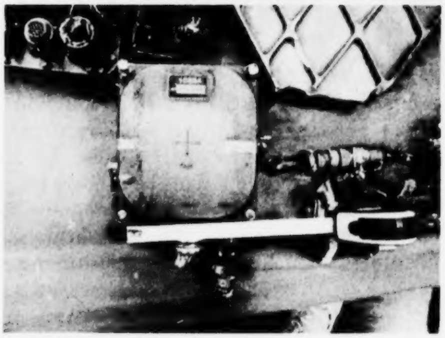
[20] Pacific International Lines (PIL) were the only major shipper using this route and other shippers prefer now using Jeddah to avoid delays at sea.

[21] 2017 Panel 2017 Midterm Update and SEMG S/2017/924 (paras. 115 - 118).

Appendix A to Annex 36: Imagery supporting technical analysis for 4 November Riyadh Borkan-2H

Table A.36.1

Imagery design characteristics of SCUD-C/Hwasong-6 SRBM versus Borkan-2H SRBM[22]

Serial[23]	*Component*	*Remarks*	*Image*
1	Warhead	Fragmentation recovered suggests warhead detonation may have occurred.	
2	Advanced guidance system	Mounting plate for inertial navigation system (INS). Not seen on SCUD-C. Arrows used to identify the direction of component mounting.	
2	Advanced guidance system	Relay unit (may be common to SCUD-C)	

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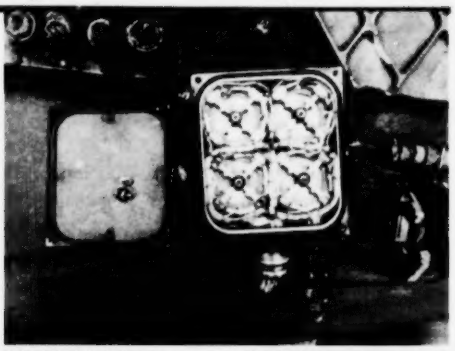
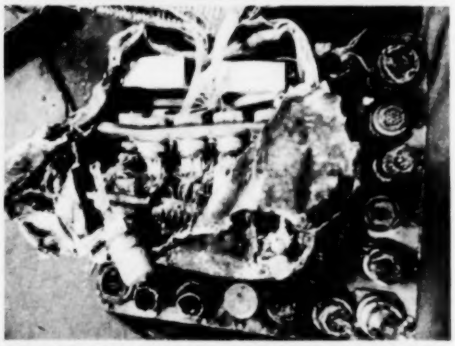
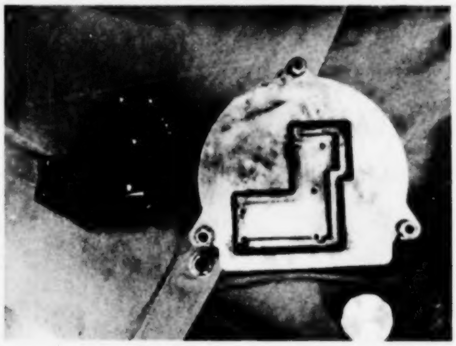
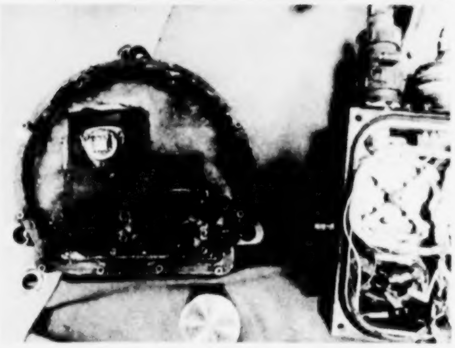
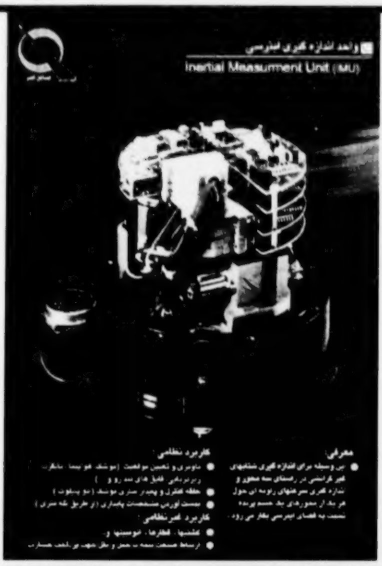
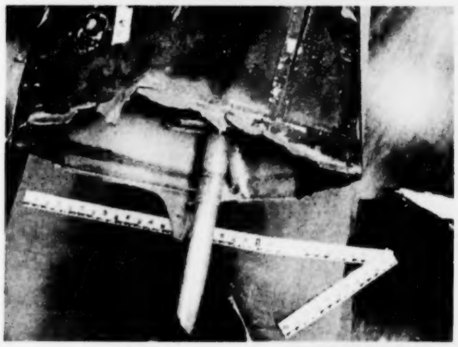
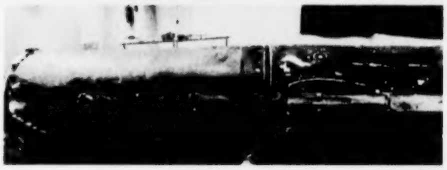
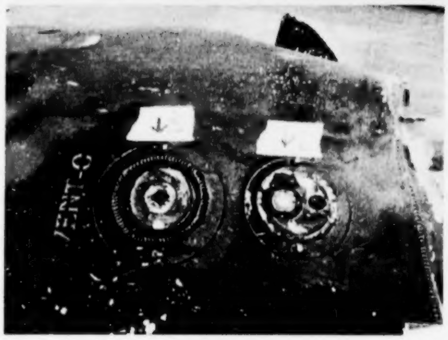
[22] The Panel has a comprehensive set of imagery of the remnants of three of the four SRBM strikes covered in this annex. Only those that illustrate a design feature difference between the SCUD-C / Hwasong-6 and the Borkan-2H have been included.

[23] Cross references to serial number in table 36.3.

Serial[a]	*Component*	*Remarks*	*Image*
2	Advanced guidance system	Relay unit (Panel removed cover)	
2	Advanced guidance system	Relay unit. Contains printed circuit board (PCB) marked SHIG 6081. The Panel believes SHIG is the abbreviation for the Shahid Hemat Industrial Group. It is a subsidiary of the Iranian Aerospace Industries Organization.	
2	Advanced guidance system	Three-point mounting plate for inertial measurement unit (IMU).	
2	Advanced guidance system	Reverse of three-point mounting plate for IMU. Similar in design to that of a IMU used on larger Iranian rockets.	

Serial	Component	Remarks	Image
2	Advanced guidance system	Open source[24] image of IMU mounting plate used on larger Iranian rockets. Shows very similar mounting plate design.	 واحد اندازه گیری اینرسی Inertial Measurement Unit (IMU) معرفی: کاربرد نظامی: کاربرد غیرنظامی:
3B	Aluminium alloy airframe	1.8mm	
3C	Oxidiser tanks forward	Oxidiser tank. Tanks join just to right of the "H".	
3C	Oxidiser tank forward	Oxidiser Vent Valve	

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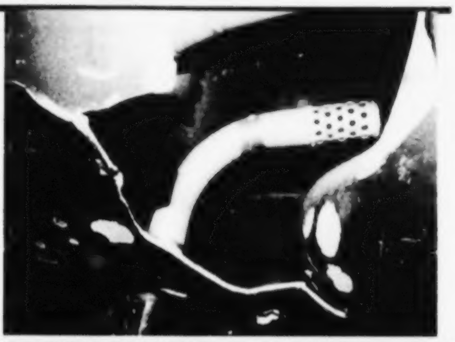
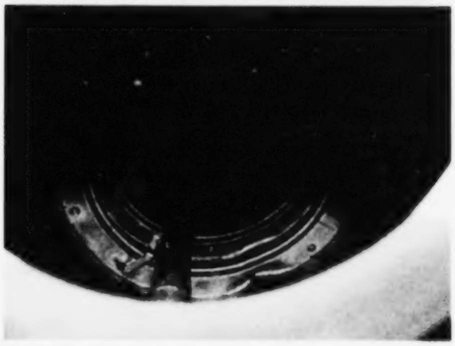
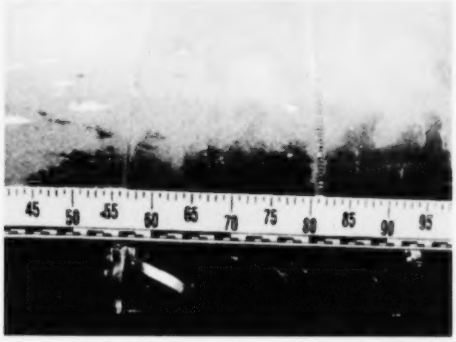
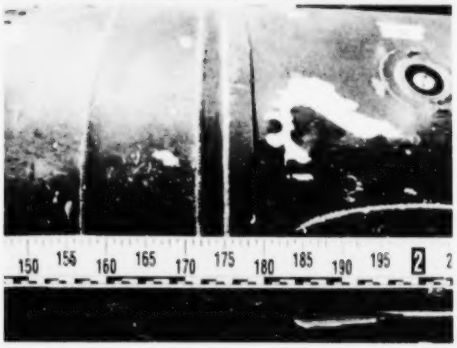
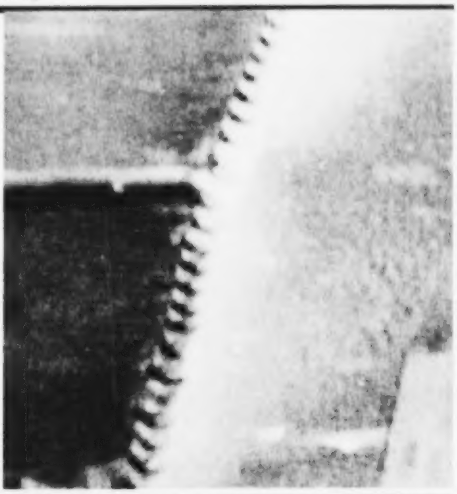
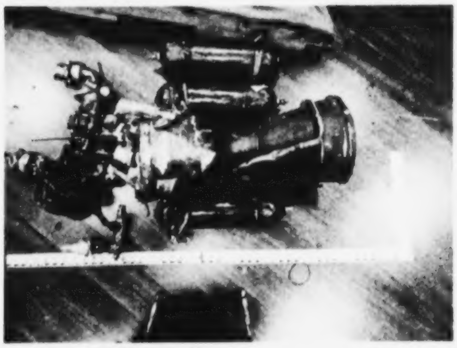
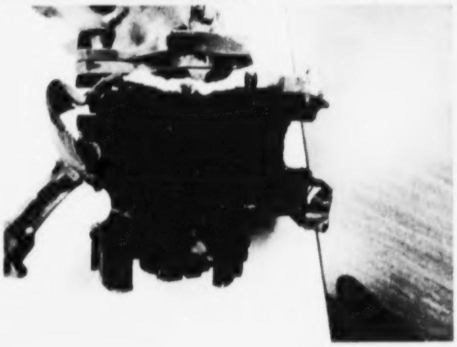
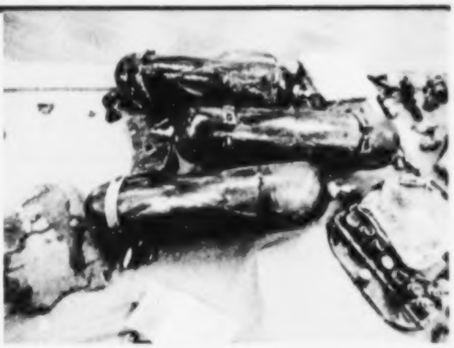
[24] Supplied by confidential source

Serial[a]	Component	Remarks	Image
3D	Horizontal filling capability pipe		
3E	Internal reinforcing aluminium alloy ribs		
3F	Factory quality welding	Factory weld on left and artisanal weld on right.	 45 50 55 60 65 70 75 80 85 90 95
3G	Artisan welding	Artisanal welding used to join main sections of missile together.	 150 155 160 165 170 175 180 185 190 195 2

Serial[a]	*Component*	*Remarks*	*Image*
3H	Artisan welding	Note factory quality weld at right angles to artisanal weld.	
4A	Rocket Motor	Further analysis required to identify any differences from SCUD-C rocket motor.	
4B	Jet vane housing for internal graphite control vanes	Metallurgical examination of the graphite may provide more evidence of manufacturer. Three were recovered.	

Serial	*Component*	*Remarks*	*Image*
4C	Composite compressed air bottles	Identical in size, material and shape to the ones recovered from the 26 July 2017 Yanbu Borkan-2H.[25]	
4D	Stabiliser fins	No remnants identified.	

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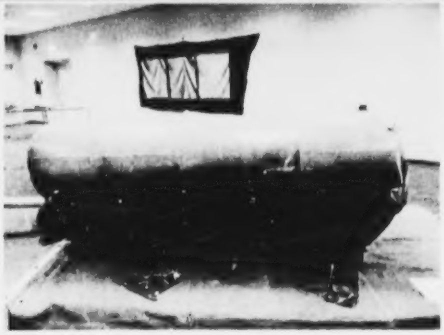
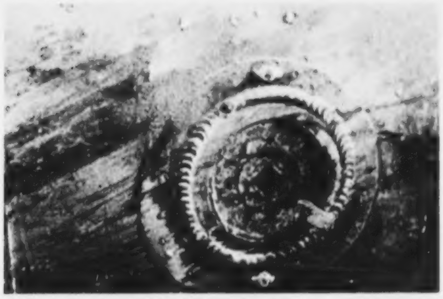
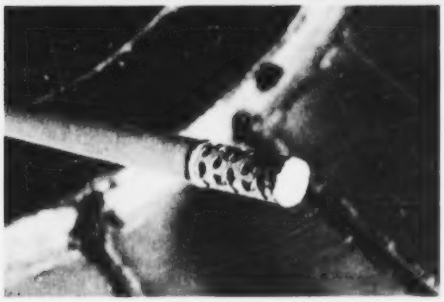
[25] Similar composite air bottles were recovered from the SRBM remnants of the 26 July 2017 Ta'if attack, from which the manufacturer was identified. The response from the manufacturer to a Panel tracing request for this component included a comment that the component was mass-produced and no serial numbers were allocated.

Appendix B to Annex 36: Imagery supporting technical analysis from 22 July 2017 Yanbu Borkan-2H

Table B.36.1
Imagery design characteristics of SCUD-C/Hwasong-6 SRBM versus Borkan-2H SRBM[26]

Serial	*Component*	*Remarks*	*Image*
3P	Aluminium alloy airframe	1.8mm	
3D	Fuel tank to rear	Fuel Valve. Note use of yellow paint, a common identifier for fuel ports.	
3L	Horizontal filling capability pipe		

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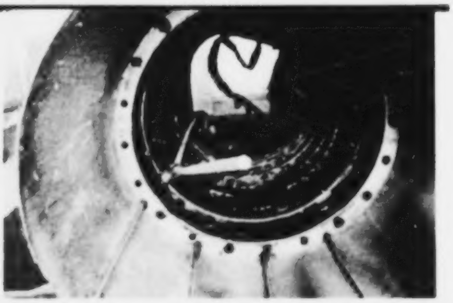
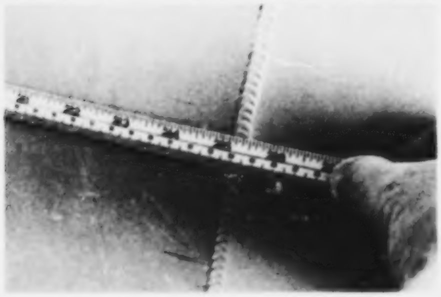
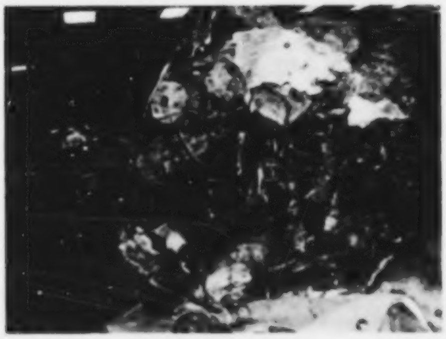
[25] The Panel has a comprehensive set of imagery of the remnants of the three of the four SRBM strikes covered in this annex. Only those that illustrate a design feature difference between the SCUD-C / Hwasong-6 and the Borkan-2H have been included.

[26] Cross references to serial number in table 36.4.

Serial[a]	*Component*	*Remarks*	*Image*
3E	Internal reinforcing aluminium alloy ribs		
3F	Artisan welding	Artisanal welding used to join main sections of missile together Rust was evident on the artisanal welding on remnants of the Yanbu SRBM that was recovered from water by the Saudi authorities, whilst the factory welds on the same remnant were rust free	
4A	Rocket Motor	Remnants of propellant supply piping visible	
4B	Composite compressed air bottles	Damaged but recognisable as composite air bottles	

Appendix C to Annex 36: Comparison of layout of filling, drainage and pressure valves for SCUD-C type SRBM and the Borkan-2H

1. The schematic at figure C.36.1 of the SCUD-C type SRBM design is based on a wide range of both open and confidential sources.

Figure C.36.1
Schematic of SCUD-C type SRBM design[28]

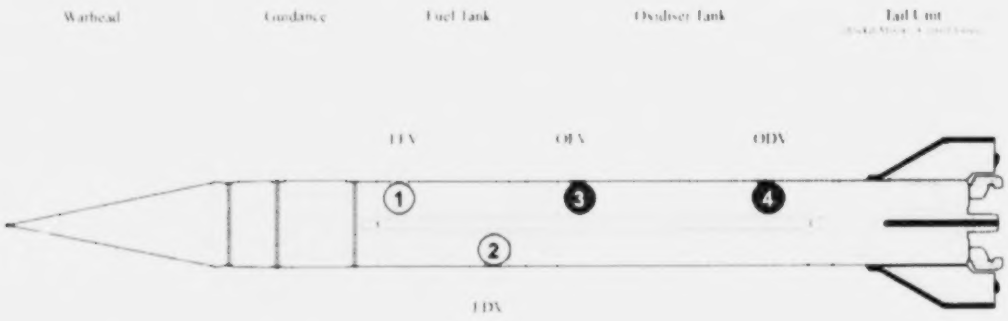


Table C.36.1
Layout of filling, drainage and pressure valves for SCUD-C type[29]

Valve Number	Component	Remarks
1	Fuel Filling Valve (FFV)	Position is at forward end of fuel tank, meaning the SRBM can only be fuelled efficiently to maximum capacity when in the vertical launch position.
2	Fuel Drainage Valve (FDV)	
3	Oxidiser Filling Valve (OFV)	
4	Oxidiser Drainage Valve (ODV)	

2. The Panel has compiled the illustration at figure C.36.2 from their examination of the remnants of both the 22 July 2017 Yanbu ER-SRBM and the 4 November 2017 Riyadh ER-SRBM. The triconic warhead is for illustrative purposes only, as the shape could not be defined from recovered fragments. It is included as all open source imagery shows the Qiam-1 with a triconic warhead.

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[28] Panel diagram. Not to scale. Valves are shown larger proportionally than on real missile to assist in identification.

[29] The section is still under Panel analysis.

Figure C.36.2
Schematic of Borkan-2H ER-SRBM design[a]

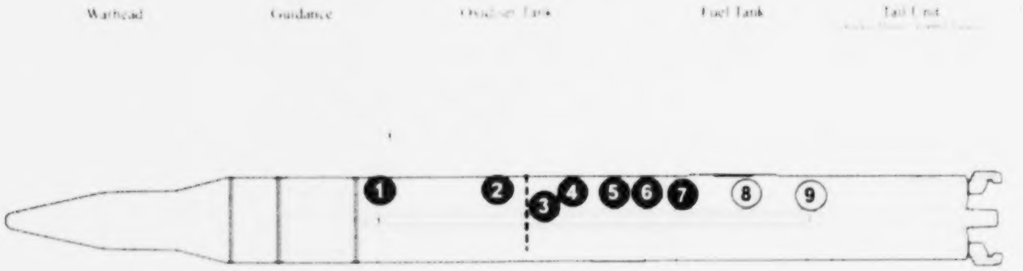
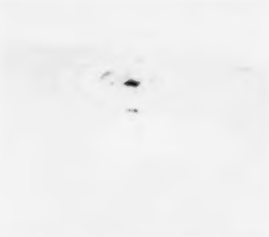


Table C.36.2
Layout of filling, drainage and pressure valves for Borkan-2H ER-SRBM design[b]

Valve Number	*Component*	*Marking on missile*[c]	*Image*
1	Oxidiser Valve (Probable Filling and Drainage) (4 November 2017 ER-SRBM)		
2	Oxidiser Filling and Drainage Valve (4 November 2017 ER-SRBM)	FILLING DRAIN-O	
3	Oxidiser Valve (Probable Pressure Relief Valve) (4 November 2017 ER-SRBM)		
4	Oxidiser Filling and Drainage Valve (4 November 2017 ER-SRBM)	FILLING DRAIN-O	

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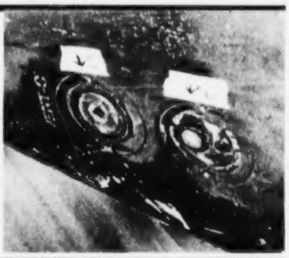
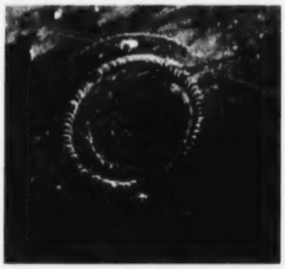
[a] Panel diagram. Not to scale. Valves are shown larger proportionally than on real missile to assist in identification.

[b] The section is still under Panel analysis.

[c] All the markings were in English.

Valve Number	Component	Marking on missile	Image
5	Oxidiser Valve (Probable Pressure Relief Valve) (4 November 2017 ER-SRBM)	VENT-O	
6	Oxidiser related Valve (4 November 2017 ER-SRBM)		
7	TBC		
8	Fuel Vent Valve (22 July 2017 ER-SRBM)	VENT-F	
9	Fuel Filling and Drainage Valve (22 July 2017 ER-SRBM)	FILLING DRAIN-F	

Appendix D to Annex 36: Suspect process equipment for liquid bi-propellant oxidizer

1. A consignment of components was captured by UAE forces operating near Mar'ib in Yemen during January 2017. Imagery was made available by the UAE for Panel analysis.

2. The consignment contained individual items of process equipment, such as pumps, tanks, drums and vessels, some of which appear to be of specific design for particular purposes:

(a) A stainless-steel vessel housing with two mixing impellers (figures C.36.1 and C.36.2);

(b) A large mixing or transfer vessel (figures C.36.3 and C.36.4);

(c) A horizontal vessel with a dished (and hinged) end-piece that is rated for elevated temperatures and pressures, which appears to be fitted with particular level instrumentation, and has a pressure relief valve (figures C.36.5, C.36.6 and C.36.7);

(d) A heating vessel (figure C.36.8); and

(e) Two vessels (figures C.36.9 and C.36.10), which are virtually identical in design, configuration and size to the liquid bi-propellant oxidiser storage tanks known to be used for the SCUD missile system (figures C.36.11 and C.36.12 for comparison).

3. The consignment also contained the conventional electrical equipment such as switchgear, control panels, electrical cabinets, drives and motors, cabling and instrumentation necessary to provide the power and control systems. There is some labelling in Farsi, suggesting Iranian origin.

4. Although most of the equipment can be considered standard for the chemical, food or similar industries, some items show artisanal crafting such as unusual welding connectors (pipelines and flanges) and other improvised engineering features. This confirms adaptation for a purpose other than initially designed for.

Figure D.36.1
Mixing impellers[33]

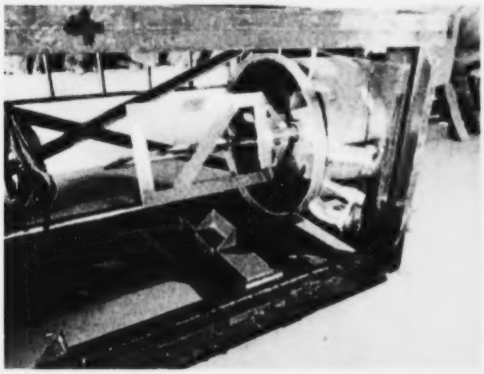
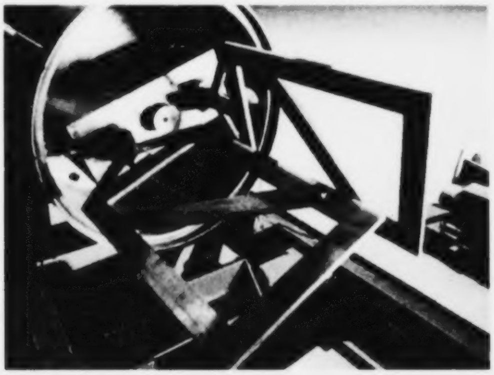


Figure D.36.2
Mixing impellers



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[33] Imagery courtesy of a Member State and confidential sources

Figure D.36.3
Storage or transfer vessel

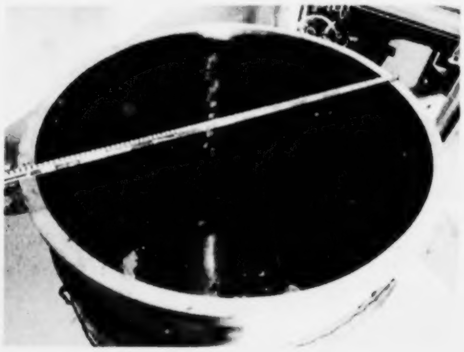


Figure D.36.4
Storage or transfer vessel

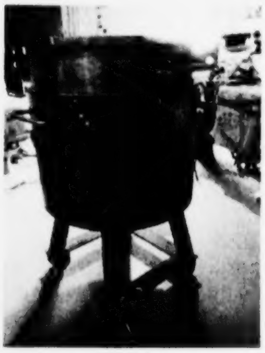


Figure D.36.5
Pressure vessel

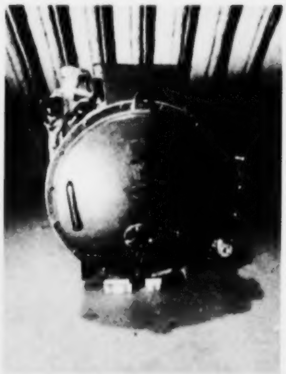


Figure D.36.6
Pressure vessel

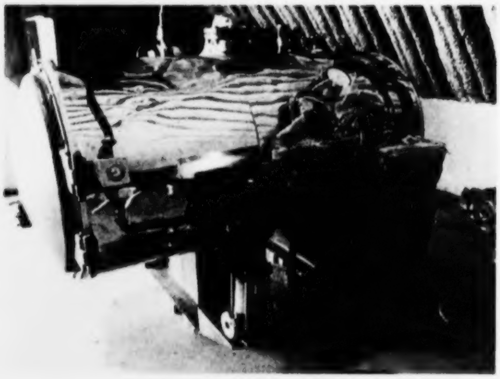


Figure D.36.7
Pressure vessel

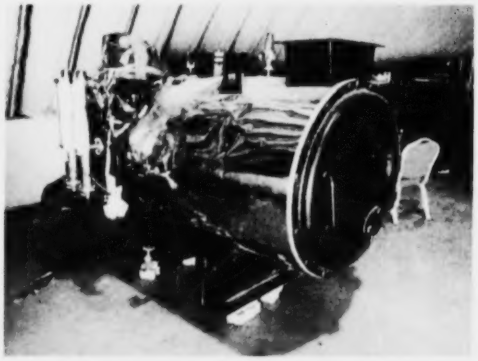


Figure D.36.8
Heating vessel

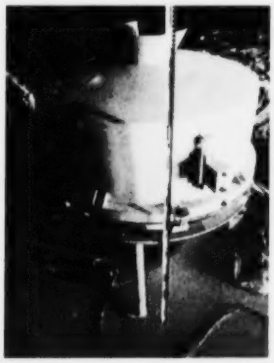


Figure D.36.9

Field storage tanks for liquid bi-propellant oxidiser

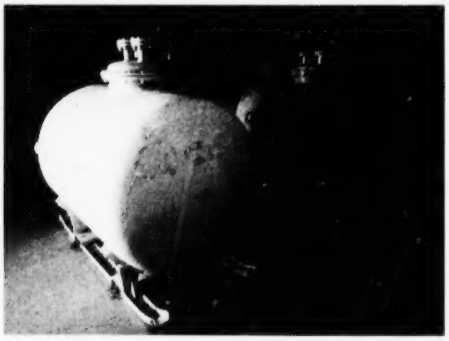


Figure D.36.10

Field storage tanks for liquid bi-propellant oxidiser

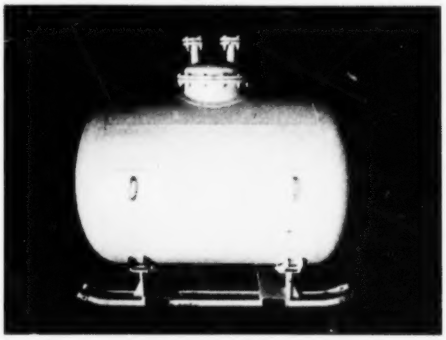


Figure D.36.11

Liquid bi-propellant oxidiser field storage tank[34]

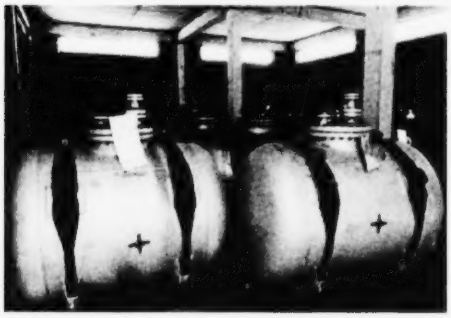
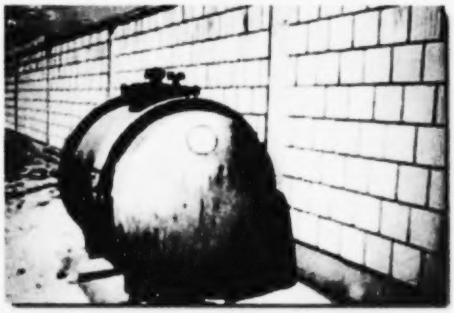


Figure D.36.12

Liquid bi-propellant oxidiser field storage tank[35]



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[34] Stored at Gharyan Air Defence base, Libya (2017). Confidential source

[35] http://www.gulflink.osd.mil/envs/scud/irfna.htm

Table D.36.1

Origin and destination of mixing unit components

			Manufacturer		Supplied to		
Serial	Component	Serial / Lot number / ID Markings	Company	Country / entity	Date	Company	Country / entity
1	Component TGC-63X 150-S	RKV0604001	Ningbo Sono Manufacturing Company (STNC)	China		Not supplied directly to Yemen	
2	Model YS90S@ Light Duty Multi-Stage Pump	S/N 14040993	Tianjin Electromotor Company (Steam)[1]	China		Company merged and not manufacturing	
3	Compact NSX 100B Surge Protective Device	15/14 GNVAK	Schneider Electric Industries SAS[2]	France			
4	M3KP 224 SMb 4 Motor	S/N E856237200 ABB Oy Motors[3]	Probably counterfeit				
5	Hydraulic Pump	VDE05Z0	Hanning Electro-Werke GmbH[4]	Germany		Not traced	
6	PM80 Pump	V-109	Pentax Industries SPA[5]	Italy	2013	Inconclusive	
7	120000UF 15V Capacitor	5796393	Phillips NV[6]	Netherlands			
8	PU 12x8 Pneumatic Hose	W3B4L097	Jisehan Hosetech, Tanhay Corporation[7]	Republic of Korea	Feb 2015	Noavar Hava Limited[8]	Iran

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[1] http://www.steampumps.com

[2] http://www.schneider-electric.com

[3] http://www.abb.com. The company has informed the Panel that the recovered motor was a fake

[4] http://www.hanning-hew.de.

[5] http://www.pentax-pumps.it

[6] http://www.phillips.com

[7] http://www.tanhay.com

[8] http://noavarhava.com

			Manufacturer		Supplied to		
Serial	Component	Serial / Lot number OR Markings	Company	Country / entity	Date	Company	Country/ entity
9	Transformer	JS90565-1	Alfa Technic Limited	Iran			
10	Moulded Case Circuit Breaker		Pars Fanal[9]	Iran		Alfa Technic Limited	Iran
11	ECT 8472 Industrial Pressure Transmitter	513487-046	Trafag AG	Member State	Aug 2014	Noran Sanat Daryaye Chalous Company[10]	Iran
12	Solenoid Valves Models 4V21008 and 4V110-15		AirTac International Group[11]	Entity			
13	Hydraulic Unit	0729212	Hid-Tek Limited[12]	Turkey	May 2015	Araz Fakhr Azar Limited Company[13]	Iran
14	L404F 'Pressuretrol' Controller	97-3667D L404F 1102 3	Honeywell Incorporated[14]	USA			
15	KBR-14 Pressure Gauges	15 Apr 22 15 Apr 23 DN25PN16	KBR Incorporated[15]	USA			
16	Series 150SI Low Water Cut-Off Pump Generator	1601	ITT McDonnell and Miller[16]	USA			

---

[9] www.parsfanal.com

[10] 257 South Lalehazar Street, 11447, Tehran, Iran

[11] http://en2.airtac.com/us.aspx?c_kind=6andc_kind2=141

[12] http://www.hid-tek.com.tr

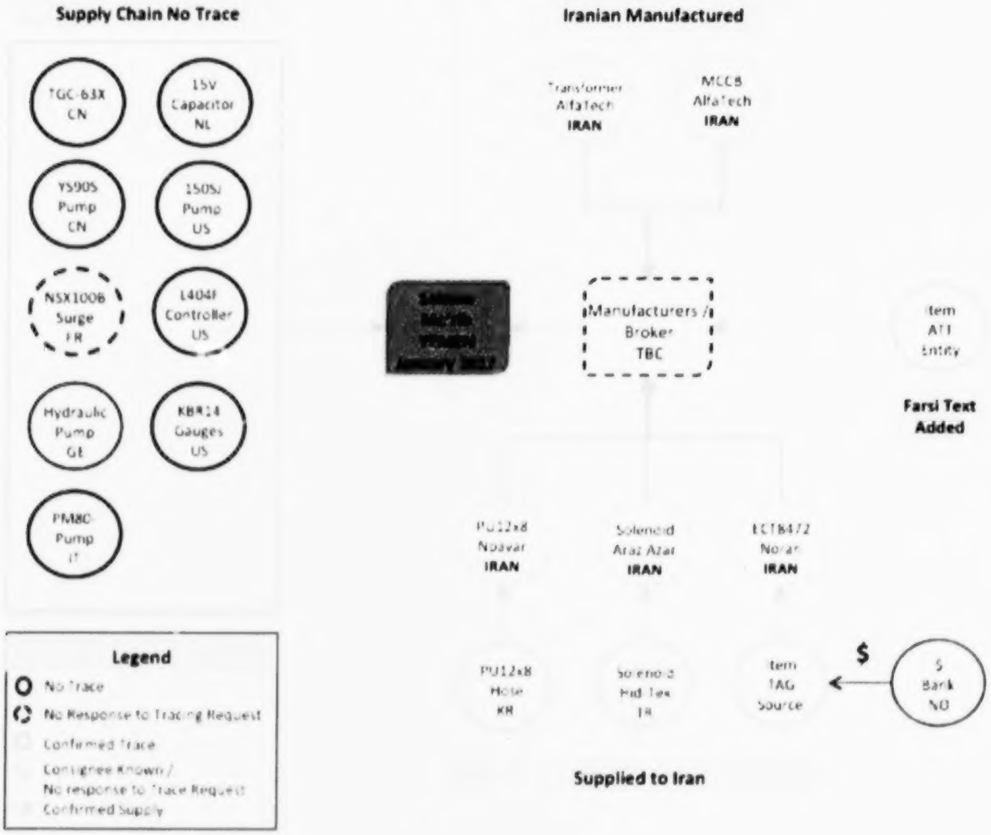
[13] http://www.arazfakhrazar.com

[14] http://www.honeywell.com

[15] http://www.kbr.com

[16] www.xylem.com. ITT is a subsidiary company

Figure D.36.13
Supply chain diagram


Supply Chain No Trace
TGC-63X CN
15V Capacitor NL
YS905 Pump CN
150SJ Pump US
NSX100B Surge FR
L404F Controller US
Hydraulic Pump GE
KBR14 Gauges US
PM80 Pump IT
Legend
No Trace
No Response to Tracing Request
Confirmed Trace
Consignee Known / No response to Trace Request
Confirmed Supply
Iranian Manufactured
Transformer Alfatech IRAN
MCCB Alfatech IRAN
Manufacturers / Broker TBC
Item ATT Entity
Farsi Text Added
PU12x8 Noavar IRAN
Solenoid Araz Azar IRAN
ECT8472 Noran IRAN
PU12x8 Hose KR
Solenoid Hid Tex TR
Item TAG Source
$
$ Bank NO
Supplied to Iran

6. The following images are of equipment and components for the tracing requests listed in table C.36.1 above.

Figure D.36.14

Component TGC-63X 150-S

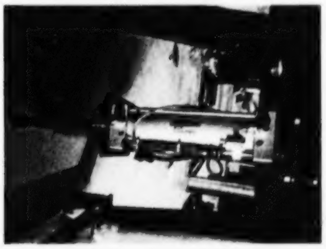


Figure D.36.15

Model YS90S@ Light Duty Multi-Stage Pump

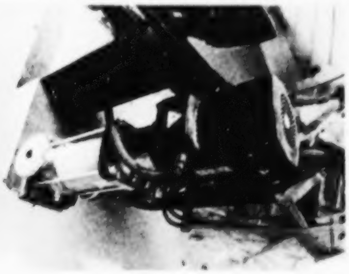


Figure D.36.16

Compact NSX 100B Surge Protective Device

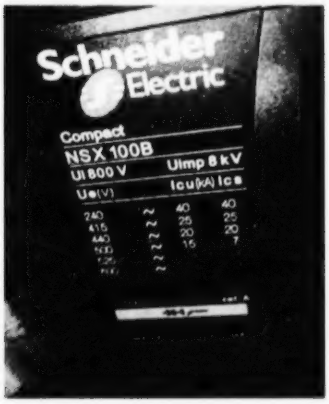

Schneider Electric
Compact
NSX 100B
Ui 800 V
Uimp 8 kV
Ue(V)
Icu(kA) Ics
240 ~ 40 40
415 ~ 25 25
440 ~ 20 20
500 ~ 15 7

Figure D.36.17

M3KP 224 SMb 4 Motor

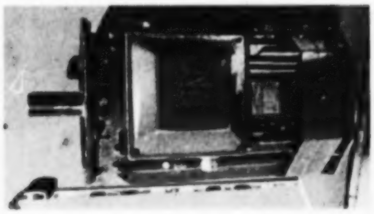


Figure D.36.18

Hydraulic Pump

Figure D.36.19

120000UF 15V Capacitor

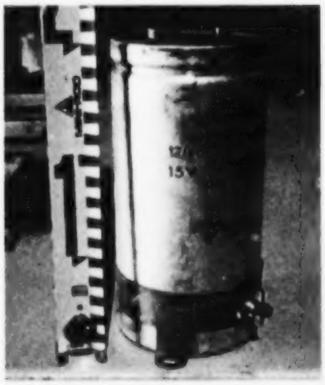


Figure D.36.20

PU 12x8 Pneumatic Hose

(Traced: KR > IR)

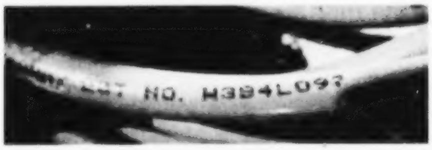

NO. H394L097

Figure D.36.21

Transformer

(Traced: Manufactured in IR)

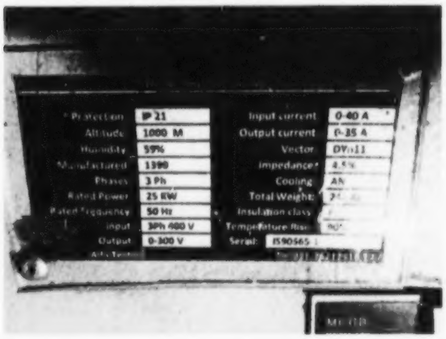

Protection
IP 21
Altitude
1000 M
Humidity
59%
Manufactured
1390
Phases
3 Ph
Rated Power
25 KW
Rated Frequency
50 Hz
Input
3Ph 400 V
Output
0-300 V
Input current
0-40 A
Output current
0-35 A
Vector
DYn11
Impedance
4.5%
Cooling
AN
Total Weight
Insulation class
Temperature Rise
Serial
I590565

Figure D.36.22

Moulded Case Circuit Breaker

(Traced: Manufactured in IR)

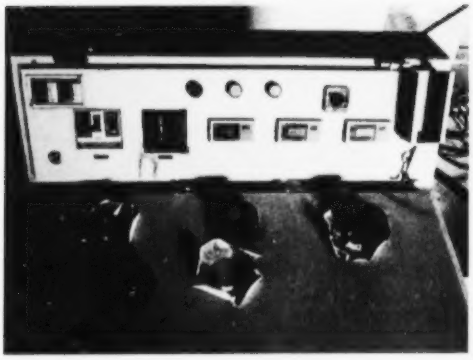


Figure D.36.23

ECT 8472 Industrial Pressure Transmitter

(Traced: Member State > IR)

Figure D.36.24

Solenoid Valves Models 4V210-08 / 4V110-15

(Partial Traced: > IR)

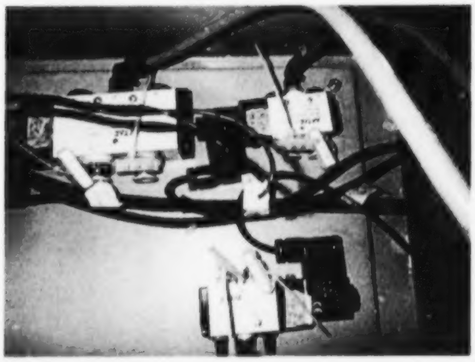


Figure D.36.25

Hydraulic Unit

(Traced: TR > IR)

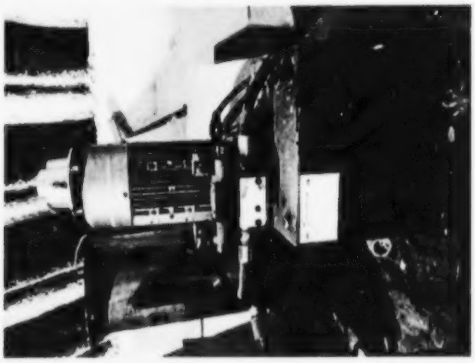


Figure D.36.26

'Pressuretrol' Controller

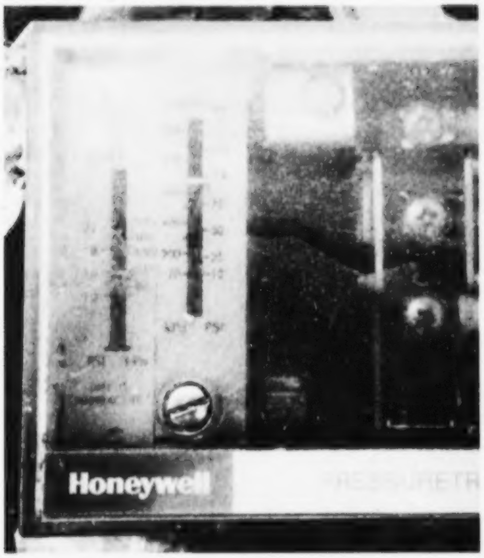

Honeywell
PRESSURETR
KPa
PSI

Figure D.36.27

KBR-14 Pressure Gauges

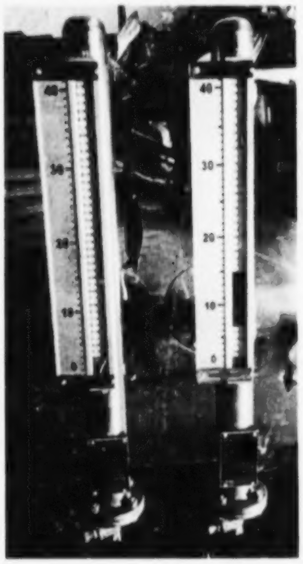


Figure D.36.28

Series 150SJ Low Water Cut-Off/Pump Generator

Appendix E to Annex 36: Response of Islamic Republic of Iran

Permanent Mission of the Islamic Republic of Iran to the United Nations
622 Third Ave New York, NY 10017 www.Iran-UN.org Tel +1(212)687-2020 Fax +1(212)867-7086 E-mail PR-Iran@un.int

In the name of God, the most Compassionate, the most Merciful

No. 100276

22 January 2018

Excellency,

Upon instruction from my Government, and with regard to the final report of Panel of Experts on Yemen established pursuant to Security Council Resolution 2140 (2014), requested under paragraph 6 of the UN Security Council Resolution 2342 (2017), I have honor to bring the following points to the attention of the members of the Committee:

1. The Islamic Republic of Iran reiterates its principled position on the necessity of an early, all-inclusive Yemeni led peaceful settlement to put an end to the Yemeni crisis. In this regard, we re-emphasize the need for the immediate and unconditional cessation of the military aggression conducted by the Saudi-led coalition, the elimination of the air, sea and land blockade on Yemen and the unhindered urgent humanitarian aid and medical assistance to the Yemeni people.

2. My Government also re-emphasizes the imperative of according priority to addressing the threat posed by growing terrorism and violent extremism, including the presence of al-Qaida in the Arabian Peninsula (AQAP) and future potential growth of the Islamic State in Iraq and Levant (ISIL, also known as Da'esh) affiliates in Yemen which continues to constitute a threat to international peace and security.

3. The Saudi Arabian regime, misusing certain provisions of UN Security Council Resolution 2216 (2015), continues its relentless aggression in Yemen that has devastated the lives of millions of people while, at the same time, aims to distract the attention of the international community through libeling baseless allegations against other UN Member States.

4. Despite the fact that the UNSC Resolution 2216 (2015) is not a balanced document and fails to acknowledge the realities in Yemen, the Islamic Republic of Iran has undertaken to implement its provisions and to continue its compliance. In this regard, certain directives have been issued to the relative authorities, including those responsible for trade control.

5. In accordance with its longstanding position, my Government has actively engaged in cooperation with different international mechanisms, including the UN Secretary-General Special Envoy for Yemen, the UN Office for the Coordination of Humanitarian Affairs, and the Panel of Experts established pursuant to resolution 2140 (2014). In this regard, despite our reservations and critical points

Permanent Mission of the Islamic Republic of Iran to the United Nations
622 Third Ave New York, NY 10017 www.iran-UN.org Tel +1(212)687 2020 Fax +1(212)867 7086 E-mail:iran@un.int

about some of the Panel's assessments in its report, the Panel was received in Tehran on 15-16 January 2018. During which different aspects of the Yemen crisis as well as the main findings and assessments contained in the Panel's report were discussed in meetings with relevant Iranian authorities.

6. Unfortunately, the report contains accusations against my Government based on fabricated evidence provided by Saudi Arabia. Seemingly, the initial assessment of the Panel is based on such evidence.

7. The Panel, based on fabricated evidence provided by the Saudi Arabia and citing some non-exclusive apparent features belong to 2 of 82 missiles, allegedly launched from Yemeni territories targeting the Saudi Arabia, has tried to link these two missiles and Iran's Qiam-1 short range ballistic missile. In this regard, almost all other references to the non-apparent characteristics of the Qiam-1, including those related to the effective range, warhead weight, internal design features, internal fueling system, navigation system and etc., are erroneous. Meanwhile, the Panel has failed to provide its reliable sources of these speculations. It is worthy to note that evidence prepared by the violators of international law have no probative value. All other claims including similarities between logos found on components and trademark belongs to certain military industries in Iran are inaccurate and flawed.

8. In each and every claim, including the alleged transfer of missile components to Yemen, in addition to "technical matching of components", substantiated information regarding "the exact time of transfer" and "the available routes" must be clearly furnished. In this context, the assessments by the Panel lack logical proof. Due to the imposed all-round blockade and given the sensitivity, heavyweight and large size of the parts (including the launcher, oxidizer tank and etc.), technical difficulty of re-aligning and assembling disassembled parts, there are serious uncertainties about the possibility of external supply for the missiles as well as the related component and materials to supply with unconventional routes.

9. Based on open source information, prior to the onset of hostilities and adoption of UN Security Council Resolution 2216 (2015), the Yemeni Government had considerable potentials in the field of ballistic missiles and related capacities in SRBMs including SCUD B, C, Hwasong 5, 6, Borkan-1 (Volcano-1) and etc. that could have been utilized by its local expertise as the technical bases for further upgrades.

10. There are also conflicts and contradictions between statements and positions provided by the Saudi Arabian authorities and those put out by the Panel with regard to strike or interception of missiles. The quantities of the retrieved missile

components contradict the assertion about intercepting the missile by defense systems which is an issue that should be clarified.

11- There is serious doubt regarding the authenticity and credibility of the Panel's assessment. In general, the Panel has failed to fully comply with the relevant fact-finding requirements. It is a well-established rule of international law that such a claim against a sovereign State requires a degree of certainty that the Panel failed to reach. Particularly, the Panel's report even fails to comply with the Methodological Standards elaborated in different phrases in the Annex of UNSC document S/2006/997, inter alia, paragraph 21, 22, 23, 25, 27, and 28. The Islamic Republic of Iran firmly believes that, in this case, the Panel should have considered the admissibility of the evidence from State that is party to the conflict as a preliminary step. Moreover, the reliability and probative values of the evidence are questionable on many reasonable grounds, including those enumerated above. The liberal approach taken by the Panel vis-a-vis the allegations would encourage more fabrications of allegation for political purposes. Accordingly, not only did the Panel not help restoring peace and security in the region, but would also hurdle the possibility of any political solution in the future.

12- The Islamic Republic of Iran categorically rejects those baseless allegations contained in the Panel's report and reiterates that it has no policy to transfer to or manufacture arms in Yemen. It is incumbent upon the Panel to revise and correct its assessments on the implementation of Arms Embargo imposed by UN Security Council Resolution 2216 (2015).

I should appreciate if you would have this letter included as an Annex to the Final Report of the Panel of Expert pursuant to the Security Council Resolution 2140 (2014).

Eshagh Al-Habib
Ambassador
Charge d'Affaires, a.i.

Ahmed Himmiche
Coordinator
Panel of Experts on Yemen
Security Council resolution 2342 (2017)
to the United Nations, New York

Annex 37: Reported UAV attacks on UAE forces in Yemen (2016 - 2017)

1. The UAE have reported eleven attacks against their ground forces by attack UAVs and one crashed UAV (table 37.1) to the Panel.[1]

Table 37.1

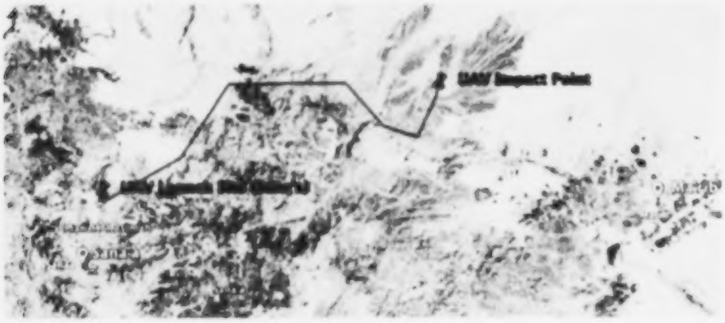
UAV attacks against UAE ground forces

Serial	*Date*	*Time (GMT)*	*Location*	*Remarks*
1	19 Sep 2016		Sharurah, Ma'rib	Crashed UAV (Serial Number: 22-17-28) (See annex 38)
2	1 Dec 2016	17:17	Ma'rib	
3	1 Dec 2106	17:50	Ma'rib	
4	1 Dec 2016	18:20	Ma'rib	
5	3 Dec 2016	09:46	Ma'rib	
6	13 Dec 2016	19:20	Ma'rib	
7	13 Dec 2016	20:00	Ma'rib	
8	2 Jan 2017	17:17	Al Mandab	
9	7 Jan 2017	18:20	Al Mandab	
10	8 Jan 2017	23:15	Al Mandab	
11	9 Jan 2017	00:50	Ma'rib	
12	17 Jan 2017	20:20	Al Mandab	

2. On 19 September 2016 a Qasef-1 UAV, launched from Sana'a airport area, crashed in the Sharurah Area near Ma'rib governorate. The UAV had travelled for approximately 100km at an average flight speed of 150kph for 40 minutes (figure 37.1).

Figure 37.1

UAV Track (19 September 2016)[2]



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[1] Letter to Panel on 26 January 2017 from Permanent Mission

[2] Panel diagram based on a Member State's information

Annex 38: Houthi-Saleh 'Qasef-1' unmanned aerial vehicles (UAV)

A. Seizures

1. On 27 November 2016, a Dubai registered truck (Dubai 13933) was intercepted at the Almeel checkpoint near Ma'rib and was found to contain components for at least six complete Qasef-1 UAV and some components for up to another 24 UAV.[1] Components were also recovered by UAE forces from crashed UAV in Ma'rib (19 September 2016)[2] and Aden Airport (16 November 2016).[3]

2. The medium sized Qasef-1 (Striker-1) UAV (figures 38.1 and 38.2) is virtually identical in design and capability to that of the Ababil-T[4] UAV (figures 38.3 and 38.4) manufactured by the Iran Aircraft Manufacturing Industries (HESA).[5] The Ababil-T is a short to medium range attack UAV with the capability of delivering a 30 to 45kg warhead up to 150km.

Figure 38.1
Houthi image of UAV Qasef 1 (Striker 1)[6]

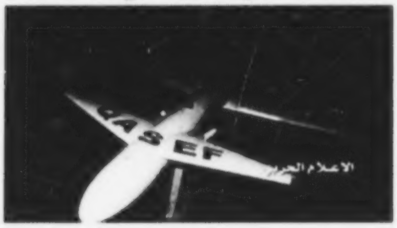


Figure 38.2
Crashed UAV Qasef 1[7]

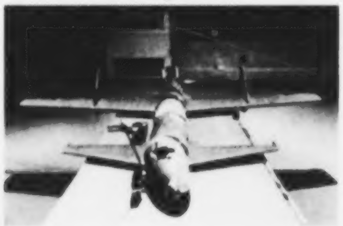


Figure 38.3
Iranian Ababil-T UAV[8]

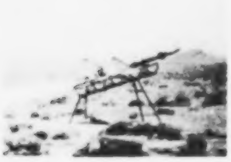
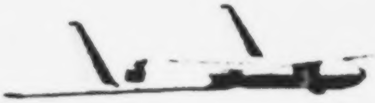


Figure 38.4
Iranian Ababil-T UAV[9]



B. Design and manufacture standards

5. The design and manufacture standards for the Qasef-1 UAV are not of a high quality. Table 38.1 summarises some of these issues.

---

[1] Letter from Member State. Including Qasef-1 Serial Numbers 22-122-33, 22-122-34, 22-122-38, 22-1721-39, 22-1721-9, 22-1721-0 and 22-1722-9.

[2] Letter from Member State. Qasef-1 Serial Numbers 22-1728.

[3] Qasef-1 Serial Numbers 22-122-39.

[4] Source: Identified from Janes' www.janes.ihs.com database.

[5] HESA is a subsidiary of the government owned Iran Aircraft Industries Organization (AIO), located in Isfahan, Iran. AIO is itself part of the Defence Industries Organization (DIO) conglomerate.

[6] Sources: 1) https://mobile.almasdarnews.com/article/photos-houthis-reveal-new-types-surveillance-attack-drones/ and 2) https://www.youtube.com/watch?feature=youtu.be&v=YtVbU4W8b4&app=desktop (at 29 – 41 seconds).

[7] Source: Conflict Armament Research. Other information also derived from, or cross checked with, Conflict Armament Research, *Iranian Technology Transfers to Iran*, March 2017. http://www.conflictarm.com/download-file/?report_id=2465&file_id=2466.

[8] Image courtesy of Janes' www.janes.ihs.com database.

[9] Ibid.

Table 38.1
Qasef-1 UAV design issues

Serial	Component / Issue	Comment	Operational limitation
1	Li-Ion Battery	Only one battery is fitted to the UAV. It powers the servos for the ailerons and the GPS.	There is no built-in redundancy, so a battery failure will lead to immediate flight termination.
2	DC Output Converter	This is fitted to step down the voltage from 11.1V for the aileron servos to 3V for the GPS.	
3	Circuit Boards	Silicone has been used as a form of crude insulation.	This may melt at high operating temperatures leading to electrical failures.
4	Circuit Boards	Metal bolts have been used to secure the circuit boards to the UAV.	These may cause short circuits and electrical failures.
5	Li-Ion Battery (2,680mAh)	Wrapped in red tape.	There is no rationale for this, other than possibly to try and disguise manufacturer and hence source.
6	GPS	GPS is the sole means of inputting target data.	Once the UAV reaches the target the GPS will switch off the power and the UAV will "glide" to the target. Target accuracy can thus only be within +/- 25m, dependent on the cruising altitude set by the operator. It is not a precision weapon.

C. Tracing and sources

6. The Panel initiated tracing requests for those components that had markings in order to identify the manufacturer and supply chain for the Qasef-1 UAV (see summary and diagram at appendix A).

7. One component, the Titanium Gear Servo HS-7955TG, was traced from the manufacturer to Tehran Hobby[10] in Iran. The payment was made by Succor Trading through Emirates Islamic Bank (account number: 370XXXXXX6102). The component was supplied to Tehran Hobby limited in mid-2015, subsequent to the implementation of the targeted arms embargo on 14 April 2015.

8. One component, the DC Output Converter, was traced from the manufacturer to Arman Optimized Systems[11] in Iran. Initially Arman Optimized Systems paid for the components from an Iranian Bank and

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[10] Tehran Hobby: Eastern Suite, 1st Floor, No 1 Espinas Building, Mirzababaei Blvd, Pounak Square, Tehran, Iran. http://tehranhobby.com

[11] Arman Optimized Systems: 5th Floor, 111 Ebne Yamin Street, North Sohrevardi Avenue, Tehran, Iran. +98 21 8850 1327. Source: Confidential.

components were delivered directly, but commencing in August 2015 the company requested delivery to a logistics company[12] in Hong Kong and payment was made from a Hong Kong bank.[13]

9. The Panel has also identified that in 2012 another component type, the L78 Voltage regulator, was supplied by the manufacturer to one of three other companies in China. The subsequent movement of this component could not be traced.

10. A Model V-10 Gyroscope is identical in design to one recovered from an Iranian manufactured Ababil-3 UAV in Iraq. The serial number of one of the Qasef-1 V-10 gyroscopes is a 4-digit serial number (S/N 2218) and only 83 serial numbers different from the Ababil-3 UAV (S/N 2301) recovered in Iran. These both very possibly being from the same source.[14]

D. Panel findings

11. The components necessary to assemble Ababil-T UAV have been supplied to the Houthi-Saleh alliance. Although Houthi-aligned media announced that the Sana'a-based ministry of defence manufactured the UAV, in reality they are assembled from components supplied by an outside source and shipped into Yemen.

12. The Panel finds that, based on: 1) the design, dimensions and characteristics of the UAV; and 2) the identification and tracing of component parts, the material necessary to assemble the Qasef-1 UAVs, emanated from Iran. The assembled UAV are then virtually identical to the ABABIL-T manufactured by the Iran Aircraft Manufacturing Industries (HESA).[15] The Panel finds that the Ababil-T UAV has been designed and produced specifically for the military purposes of remote explosive attack or ISTAR.

13. The Panel finds that as the Islamic Republic of Iran has not provided any information to the Panel of any change of custody of the Qasef-1 or the components, the Islamic Republic of Iran is in non-compliance with paragraph 14 of resolution 2216 (2015) in that it failed to take the necessary measures to prevent the direct or indirect supply, sale or transfer of military related equipment to the Houthi-Saleh forces, an entity acting at the direction of listed individuals.

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[12] Part supplied via Turn Key International Logistics Company Limited. Flat D. G/F Roxy Industrial Centre. 41 – 49 Kwai Cheong Road. Hong Kong. China. +852 9219 8927 / +852 6382 1975. Source: Confidential.

[13] Industrial and Commercial Bank of China (Asia) Limited. Hong Kong. China. (SWIFT: UBHKHKHH). Account Number: 86XXXXXX4237. Account Name: Ginseng Global Company Limited.

[14] Iranian Technology Transfers to Yemen. Conflict Armament Research Limited. London. March 2017.

[15] HESA is a subsidiary of the government owned Iran Aircraft Industries Organization (AIO), located in Isfahan. Iran AIO is itself part of the Defence Industries Organization (DIO) conglomerate.

Appendix A to Annex 38: QASEF-1 component tracing

Table A.38.1
Origin and destination of UAV components

				Manufacturer		Supplied to		
Ser	Component	Serial / Lot number	Image reference[26]	Company	Country / entity	Date	Company	Country / entity
1	Sail Propeller Y-A 22x18		IMG_2997	Sail Aviation Propeller[27]	China		No response to tracing request	
2	Titanium Gear Servo HS-7955TC		IMG_2998	Hitec[28]	Republic of Korea	Mid 2015	Tehran Hobby Limited[29]	Iran
3	DC Output Converter MIW 3021		IMG_3029	Minmax	Entity	Post Aug 2015	Arman Optimised Systems[30]	Iran
4	NAVIOR Satellite Compass NAVIS NC144_02	58013428	IMG_3028	NAVIS Ukraine[31]	Ukraine	*2009*	*Anshuai Electronics*[32]	*India*
5	Voltage Regulator	L78	P2020160	ST Microelectronics	Member State	2002	WI Microelectronics[33] Willas-Array Electronics[34] or Selcom Electronics[35]	Hong Kong, China Hong Kong, China
6	DLE-111 Petrol Engine		IMG_2995	Mile Hao Xing Technology Company[36]	China		*Company claims a counterfeit*	
7	Full Duplex Multi-Frequency Data Link	EKAR-D94-1018	IMG_3009	Not identified				
8	Li-Ion Battery	2212230	IMG_3006	Not identified				
9	Vertical Gyroscopes V10	1233, 1768, 2076, 2099, 2109, 2216 and 2218	IMG_3047	Not identified			*S/N 2301 seen on an Iranian Ababil-3 recovered in Iraq*	

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[26] Sources: Conflict Armament Research and Confidential Sources. Images at appendix 2.

[27] Sail Aviation Propeller. Audio Supplies Company Limited, Kaiyuan City, Liaoning Province, China. Email: mailto:2284001479@qq.com.

[28] HITEC RCD Korea, Ochang, Cheongwon-gun, Chungcheongbuk-do, Republic of Korea. http://www.hitecrcd.co.kr/new/. Possibly manufactured in China though by Hitec-Multiplex China Incorporated, 3F of Hong Li Building 1, 24W Jinfeng Road, Jindig Industrial Park, Tanglia, Zhuhai, China. http://www.hitecrcdchina.com.

[29] Tehran Hobby, Eastern Suite, 1st Floor, No 1 Espinas Building, Mirzababaei Blvd, Pounak Square, Tehran, Iran. http://tehranhobby.com.

[30] Arman Optimized Systems, 5th Floor, 111 Ebne Yamin Street, North Sohrevardi Avenue, Tehran, Iran. +98 21 8850 1327. Part supplied via Turn Key International Logistics Company Limited, Flat D, G/F, Roxy Industrial Centre, 41-49 Kwai Cheong Road, Hong Kong, China. +852 9219 8927.

[31] NAVIS Ukraine LLC, Smela Street, Mazur 14, Cherkasy Region, Ukraine 20704. http://www.navis-ukraine.com.ua.

[32] Anshuai Electronics, Plot 21, Venkateshwara Colony, Ecil Post, Hydrabad – 500062, Andhra Pradesh, India. Although NAVIS state they supplied to Anshuai, this company states they did not receive that particular serial number. Panel investigations continue.

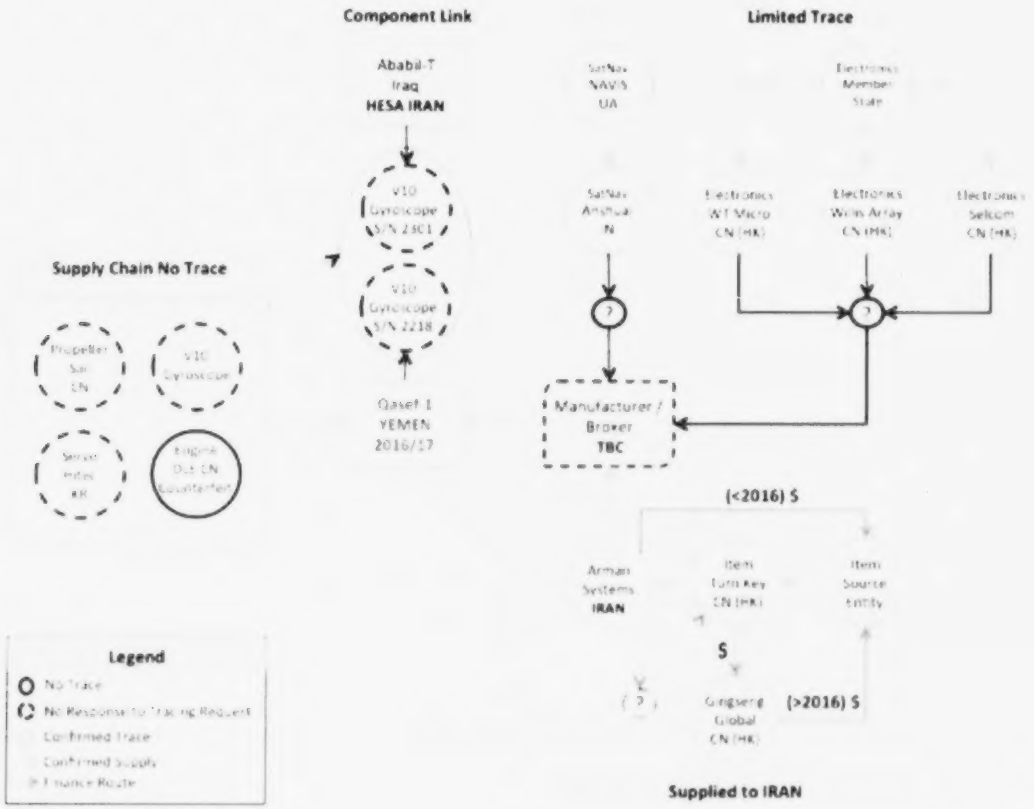
[33] WI Microelectronics Limited, Lot 3719, H DD 104, Hong Kong, China. http://www.wimec.com/WI/?lang=en.

[34] Willis-Array Electronics, 24/F, Wyler Centre, Phase 2, 200 Tai Lin Pai Road, Kwai Chung, New Territories, Hong Kong, China. http://www.willas-array.com/index.php?lang=en.

[35] Selcom Group S.p.A., Via A. Grandi, 5, 40013 Castel Maggiore (BO), Italy. Manufactured by Selcom Electronics Limited, A7/A24 Workshop, No 5399, Waiqingsong Road, Waiqingsong II, Shanghai, 201707, China. http://www.selcomgroup.com/contacts.

[36] Mile Hao Xiang Technology Co. Ltd, located in the Chinese Yunnan Honghe Hani Autonomous Prefecture of Maitreya. (http://www.dlengine.com).

Figure A.38.1
Supply chain diagram


Component Link
Limited Trace
Ababil-T
Iraq
HESA IRAN
SatNav
NAVIS
UA
Electronics
Member
State
V10
Gyroscope
S/N 2301
SatNav
Anshua
N
Electronics
WT Micro
CN (HK)
Electronics
Wills Array
CN (HK)
Electronics
Selcom
CN (HK)
Supply Chain No Trace
V10
Gyroscope
S/N 2218
?
?
Propeller
Sai
CN
V10
Gyroscope
Manufacturer /
Broker
TBC
Qasef 1
YEMEN
2016/17
Servo
Hitec
KR
Engine
DLE CN
Counterfeit
(<2016) $
Arman
Systems
IRAN
Item
Turn Key
CN (HK)
Item
Source
Entity
$
?
Gingserg
Global
CN (HK)
(>2016) $
Supplied to IRAN
Legend
No Trace
No Response to Tracing Request
Confirmed Trace
Confirmed Supply
Finance Route

Appendix B to Annex 38: QASEF-1 component imagery[27]

Figure B.38.1

IMG-2997: Sail Propeller

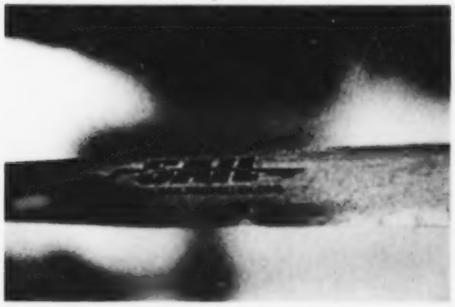


Figure B.38.2

IMG-2998: Titanium Gear Servo HS-7955TC

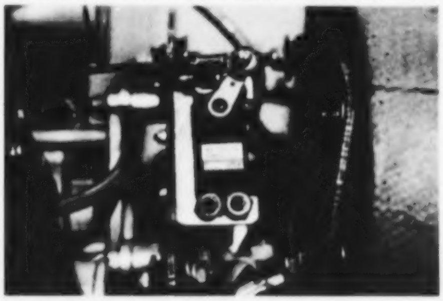


Figure B.38.3

IMG-3029: DC Output Converter MIW 3021

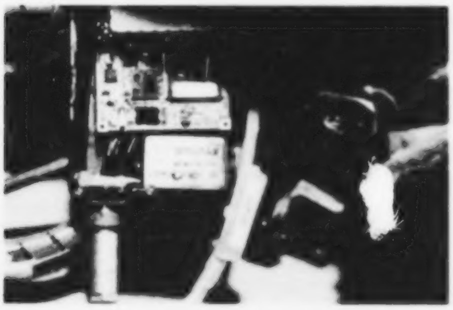


Figure B.38.4

IMG-3028 NAVIOR Satellite Compass NAVIS NC144_02

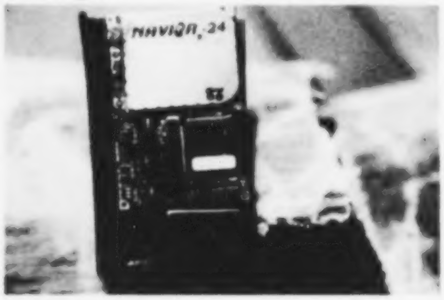


Figure B.38.5

P2020160: L78 Voltage Regulator

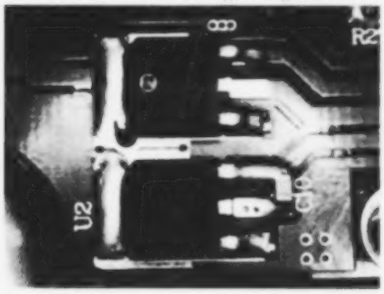
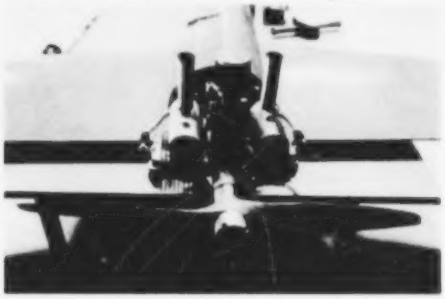


Figure B.38.6

IMG-2995: DLE-111 Petrol Engine



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[27] Imagery from Conflict Armament Research

Figure B.38.7
IMG-3009: Full Duplex Multi-Frequency Data Link

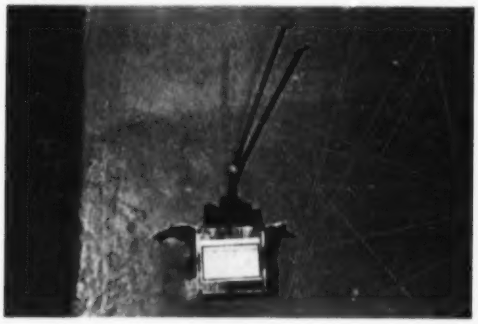


Figure B.38.8
IMG-3006: Li-Ion Battery

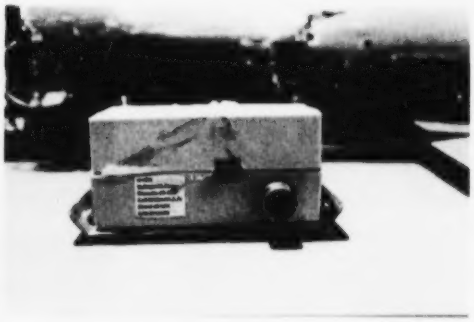


Figure B.38.9
IMG-3047: Vertical Gyroscope V10

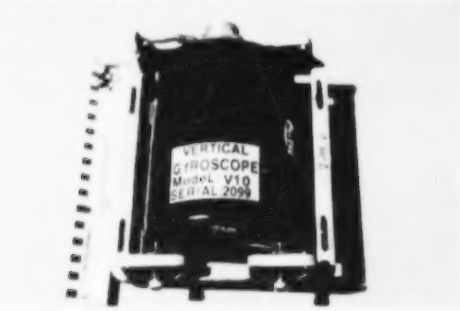
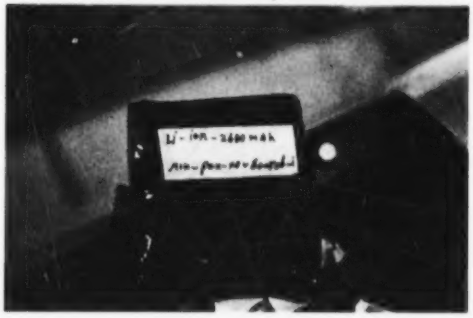

VERTICAL
GYROSCOPE
Model V10
SERIAL 2099

Figure B.38.10
IMG-3053: Li-Ion Battery Unknown Make


Li - ion - 2600 mAh

Annex 39: Houthi-Saleh 'Rased' unmanned aerial vehicles (UAV)

A. Seizures

1. The Saudi Arabia-led coalition has seized a number of crashed or downed 'Rased' UAV in 2017: 1) Nihm (25 March 2017), 2) Sana'a (20 September 2017); and Kirsh, Lahij (20 September 2017) (see figures 39.1 to 39.3).

Figure 39.1
Downed 'Rased' UAV
Nihm (25 March 2017)

Figure 39.2
Downed 'Rased' UAV
Sana'a (20 September 2017)

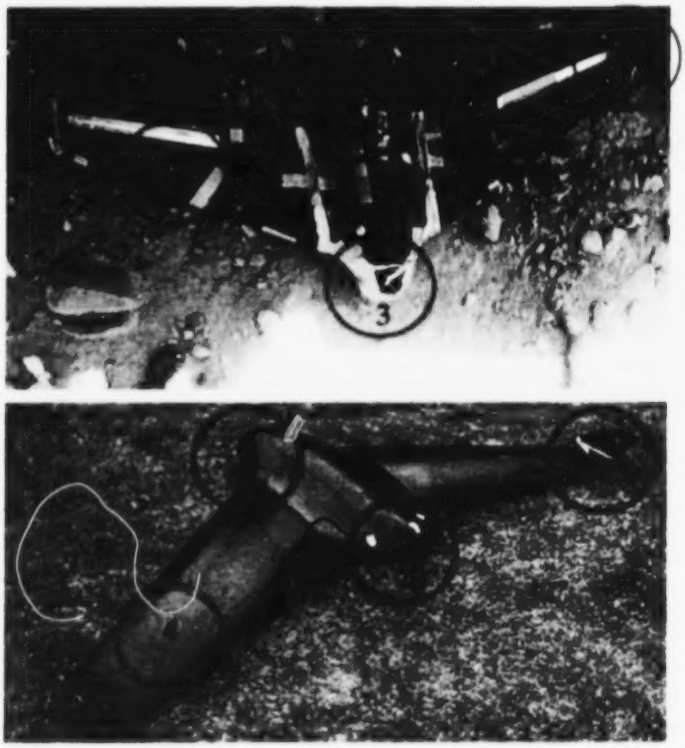
Figure 39.3
Downed 'Rased' UAV
Kirsch, Lahij (20 September 2017)

B. Design

2. The Panel is almost certain that the 'Rased" UAV is actually the commercially available Skywalker-8 manufactured by Skywalker Technology Limited of China (www.skywalker-model.com). The common design and characteristics between the two UAV are shown at figures 39.4 and 39.5.

Twitter @JoshuaKoontz 1

Figure 39.4
'Rased' v Skywalker-8 type indicators 1

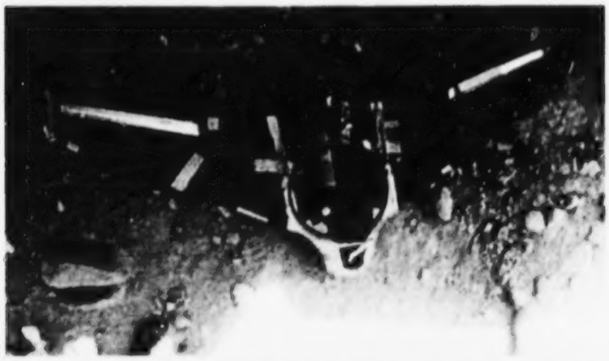


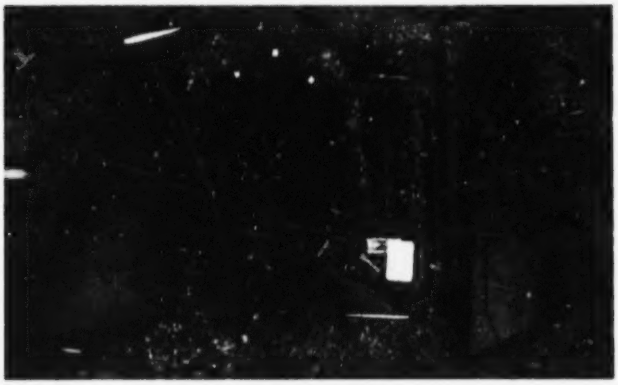
X-8 Skywalker Imagery from www.img.banggood.com

Type Indicators 1

1. Winglet shape and size.
2. Tail profile.
3. Nose profile.
4. Wing area and shape.

Figure 39.5
'Rased' v Skywalker-8 type indicators 2





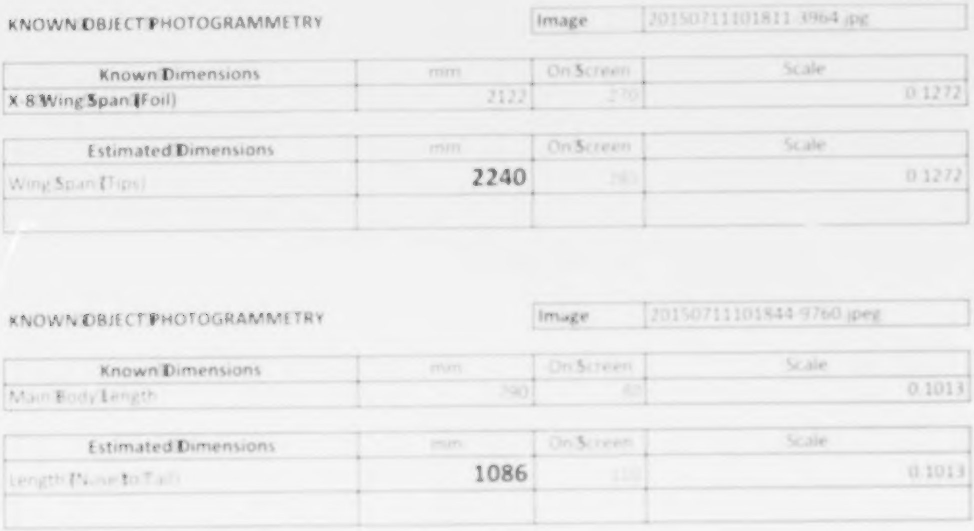
X-8 Skywalker Imagery from www.img.banggood.com

Type Indicators 2

1. Aileron position and size.
2. Access panel.

3. Dimensional analysis by photogrammetry provides a further indicator that the two UAV are the same. Photogrammetry was used to estimate the dimensions of an X-8 Skywalker to compare it to the declared Houthi dimensions (figure 39.6). The Houthi declared dimensions of a wingspan of 2.2m and a length of 1.0m. Photogrammetry derived dimensions of an X-8 Skywalker produce a wing span tip to tip of 2.24m and a length from nose tip to rear of wing tip of 1.1m. When allowing for error due to parallax these are virtually identical to the Houthi declared data.

Figure 39.6
'Rased' versus Skywalker-8 type dimensional analysis by photogrammetry



KNOWN OBJECT PHOTOGRAMMETRY

Image	20150711101811-3964.jpg

Known Dimensions	mm	On Screen	Scale
X-8 Wing Span (Foil)	2122	270	0.1272

Estimated Dimensions	mm	On Screen	Scale
Wing Span (Tips)	**2240**	285	0.1272

KNOWN OBJECT PHOTOGRAMMETRY

Image	20150711101844-9760.jpeg

Known Dimensions	mm	On Screen	Scale
Main Body Length	790	80	0.1013

Estimated Dimensions	mm	On Screen	Scale
Length (Nose to Tail)	**1086**	110	0.1013

C. Supply options

4. The X-8 Skywalker is widely available commercially (see table 39.1). The Panel has also identified that the X-8 Skywalker is unique in its design, and that no other comparable UAV is available in commercial markets.

Table 39.1
Commercial availability of Skywalker X-8

[illegible]	[illegible]	[illegible]	[illegible]
1	Airelectronics	Spain	
2	Aerosystems West	USA	
3	Banggood	China (Hong Kong)	Shipped from Hong Kong, China
4	DH Gate.com	Global	Shipped direct from China
5	E-Bay	UK	Shipped direct from Hong Kong, China
6	Flitetest.com	USA	Reviewed by USA consumer

[illegible]

[illegible]	[illegible]	[illegible]	[illegible]
7	FPVModel.com	China	Shipped direct from China
8	Porcupine RC	USA	Shipped direct from Hong Kong, China
9	UAV Systems International	USA	Sold as part of a full UAV surveillance system in USA
10	UuuStore.com	China	Shipped direct from China

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https://www.fpvmodel.com/[illegible]

http://www.porcupinerc.com/[illegible]

http://www.uavsystemsinternational.com/[illegible]

http://www.uuustore.com/[illegible]

Annex 40: Chronology of reported sea mine incidents in Red Sea (2017)

Table 40.1
Summary of sea mines warnings, seizures or deployments (2017 to date)

Ser	Date	Mine type	Incident type	[illegible]	Geolocation	Remarks
1	Nov 2016	Improvised	Find	Hudaydah		Reported to Panel by a confidential source
2	4 Feb 2017	Not Known	Threat	Mukha		US MARAD[1] warns of sea mines near entrance to Mukha harbour[2]
3	7 Mar 2017	Improvised	Explosion	Hudaydah	13°16.64'N 43°10.96'E	Mine strike against A54 Qatari launch.
4	7 Mar 2017	Not Known	Explosion	Mukha	13°13.00'N 43°13.50'E	Mine strike against the Yemen Coastguard vessel, YN Safwan al-Ozaybi.[3]
5	23 Mar 2017	Improvised	Find, Rendered Safe	Midi	16°15.00'N 42°48.00'E	Recovered off beach.
6	25 Mar 2017	Improvised	Detonated during Render Safe Procedure (RSP)	Hudaydah	16°20.18'N 42°45.01'E	Mine detonated when attempt made by private maritime security team to detach electrical conductor to isolate the detonator.
7	25 Mar 2017	Improvised	Find, Rendered Safe	Mukha	13°20.00'N 43°14.00'E	
8	15 Apr 2017	Improvised x 4	Find, Rendered Safe		16°20.38'N 42°45.39'E	One detonated during tow to disposal site.
9	15 Apr 2017	Improvised	Find, Rendered Safe		16°20.43'N 42°44.35'E	Detonated during tow to disposal site.
10	24 Apr 2017	Improvised	Detonated during Render Safe Procedure (RSP)			Location not provided.

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[1] Maritime Administration (United States Department of Transport).

[2] https://www.marad.dot.gov/msci/alert/2017-22805.

[3] Also reported by MARAD. https://www.marad.dot.gov/msci/alert/2017-23375.

Ser	Date	Mine Type	Incident type	Location near	GPS location	Remarks
11	30 Apr 2017	Improvised	Detonated during Render Safe Procedure (RSP)		16°19.82'N 42°45.90'E	
12	1 May 2017	Not Known	Explosion	Hudaydah	16°15.00'N 42°48.00'E	Reported to have being detonated by local fishermen
13	27 May 2017	Improvised x 2	Find, Rendered Safe	Thwaq Island[5]	16°18.57'N 42°45.94'E	Reported to Committee by Saudi Arabia on 30 September 2017
14	5 Jun 2017	Improvised	Find, Rendered Safe		13°19.26'N 43°10.09'E	
15	5 Jun 2017	Improvised	Find, Rendered Safe		13°19.35'N 43°10.07'E	
16	6 Jun 2017	Improvised	Find, Rendered Safe by demolition		13°19.17'N 43°09.87'E	
17	6 Jun 2017	Improvised	Find, Rendered Safe		13°18.56'N 40°39.93'E	
18	6 Jun 2017	Improvised	Find, Rendered Safe		13°18.39'N 43°09.21'E	
19	7 Jun 2017	Improvised	Find, Rendered Safe by demolition		13°19.43'N 43°09.78'E	
20	7 Jun 2017	Improvised	Find, Rendered Safe		13°19.00'N 43°09.80'E	
21	7 Jun 2017	Improvised	Find, Rendered Safe		13°19.54'N 43°09.63'E	
22	7 Jun 2017	Improvised x 2	Find, Rendered Safe		16°20.44'N 42°44.75'E	

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[5] 16°18'42.61"N, 42°41'10.77"E

Ser	Date	Mine Type	Incident type	Location area	Geo-location	Remarks
23	8 Jun 2017	Improvised	Find, Rendered Safe by demolition		13°18.62'N 43°09.47'E	
24	8 Jun 2017	Improvised	Find, Rendered Safe by demolition		13°18.21'N 43°09.35'E	
25	8 Jun 2017	Improvised	Find, Rendered Safe by demolition		13°19.08'N 43°09.80'E	
26	8 Jun 2017	Improvised	Find, Rendered Safe		13°19.55'N 43°09.63'E	
27	8 Jun 2017	Improvised	Find, Rendered Safe		13°19.50'N 43°09.73'E	
28	10 Jul 2017	1 x Improvised	Find	Midi	16°15.00'N 42°47.00'E	Reported to be recovered South-West of Port and rendered safe by Yemeni military.
29	14 Sep 2017	Improvised	Find	Ghurab Island		Unconfirmed media reports.
30	20 Sep 2017	Improvised	Find, Rendered Safe		16°16.56'N 42°45.36'E	
31	25 Sep 2017	Improvised	Detonated during Render Safe Procedure (RSP)		16°16.56'N 42°45.52'E	
32	25 Sep 2017	Improvised	Detonated during Render Safe Procedure (RSP)		16°16.05'N 42°45.45'E	
33	25 Sep 2017	Improvised	Find, Rendered Safe		16°17.01'N 42°43.97'E	Detonated during tow to disposal site.

Annex 41: Analysis of improvised sea mines

A. Threat

1. Sea mines are low cost, easy to deploy, tactically very effective, difficult to detect and thus are a potent threat to both naval and commercial vessels. Relatively small quantities present a threat out of proportion to their numbers. The now confirmed possession, and probable use in the Red Sea area of sea mines by Houthi-Saleh forces adds another dimension to the maritime security environment. The deployment of these improvised sea mines now threatens the delivery of humanitarian assistance should they drift into the vital sea lines of communication (SLOC) or the approaches to the Red Sea ports. There is also the possibility of a merchant vessel being struck by a sea mine due to the volume of traffic and relatively constrained area of the Red Sea. The spatial density (mines/nm^2) of these sea mines will be a major contributory factor as to whether a vessel is hit. The last time when sea mines were sown in the Red Sea was 1984 resulting in 19 vessels being struck over a period of months. Only a single mine was detected, disarmed and recovered.[1]

2. The direction of drift of any sea mines within the Red Sea is seasonally dependent. From May to November 2017 the mines will have drifted down the Red Sea until they join the predominantly Southern summer current and reach the Strait of Bab al-Mandab, or drift ashore back on the Yemeni coast or coastal islands (as indicated by the recovery from Thwaq Island). It is possible that they will then drift through the Strait of Bab al-Mandab into the Eastern Indian Ocean.

3. In November 2017 the currents changed direction. Any remaining improvised sea mines will continue to drift down the coast with the Eastern Boundary Current until they reach Mukha and the Strait of Bab al-Mandab, where they will be drawn into the predominantly Northern winter current, reverse direction and drift up the central channel of the Red Sea near or in the major shipping lanes towards the Suez Canal area (figure 41.1).

Figure 41.1
Seasonal sea mine drift in Red Sea[2]

Seasonal Current
May to October
Seasonal Current
November to April

B. Technical analysis

4. The recovered improvised sea mines are similar in design and concept to mid-20th century sea mines. They are locally manufactured and contain approximately 21 kg of high explosive. Table 41.1 contains data on the mine design and dimensions.

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[1] www.washingtonpost.com/archive/politics/1984/08/18/british-moving-possible-mine-from-red-sea/5f41f634-8f2b-11e1-990c-de1dee3648e6/?utm_term=.0a1990f7b0232 and www.csmonitor.com/1984/0808/080817.html

[2] Information on seasonal currents from http://www.hisutton.com/Houthi_mines_in_Red_Sea.html

Table 41.1
Design and dimensions of Houthi-Saleh improvised sea mines

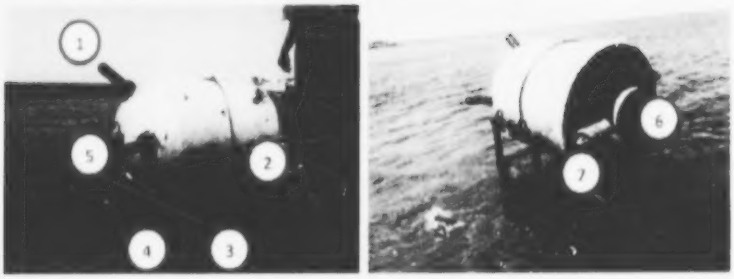
Ser	*Item*	*Data*	*Remarks*
1	Dimensions	0.72m (L) x 0.397m (D)	
2	Initiation system (switch)	4 x Contact Horns	
3	Initiator	Commercial electric detonator	
4	Booster explosive charge	RDX (0.7kg)	Probably harvested military explosive from abandoned explosive ordnance (AXO)
5	Main explosive charge	Ammonium Nitrate – Aluminium (20.3kg)	Improvised Ammonal Velocity of Detonation ≈ 4,000m/s
6	Power Source	16 x AA Batteries	
7	Container type	Ferrous cylinder	

5. The "Thwaq" mines were reported as being of sound construction, with a degree of standardization between the mines, which includes quick connecters to the wiring harness. The mines are assessed as being watertight, meaning that it should not be expected that they would leak and subsequently sink.

6. There are a number of features of the "Midi" mine that challenge its design integrity. These are discussed in table 41.2, which refers to figure 41.2.

7. WARNING. At least 4 of the 25 improvised mines (16%) encountered by the Saudi Arabia-led coalition to date have initiated during the render safe procedure, or when being towed to a safe disposal site.

Figure 41.2
The "Midi" improvised sea mine[3]



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[3] Widely reported in media: e.g. Covert Shores, 25 March 2017.

Table 41.2

Design and dimensions of Houthi-Saleh improvised sea mines

Red Circle	*Generic*	*Analysis*	*Remarks*
1	Horns	No rust on horns so probably plastic.	Presence of AA batteries means not chemical as there is no requirement for an electrolyte to charge a battery.
2	Mooring wire	Based on the cable diameter and rim size, the cable is no more than 30m.	
3	Cradle	Assuming the steel is one inch angle iron means that could be too small to overcome the buoyancy of the mine on its own and would require a sinker attached to it. From known mine dimensions the cradle is assessed as being approximately 0.45m (L) x 0.4m (W). From density calculations it is estimated that the mass of the cradle plus 30m of mooring wire is approximately 26kg.	No sinkers identified?
4	Mooring wire	Approximately 30m of possible 10mm steel cable.	
5	Dissolving Arming Disc		There is no mine release mechanism on the cradle, which would be required if the mine were to be armed hydrostatically.
6	Unknown vessel		
7	Container	Based on the dimensions of the "Thwaq" mine, the container is 0.72m long by 0.397m diameter. Assuming 10mm thickness steel, the approximate container weight is 87kg.	

7. There are slight design differences between the "Midi" mine and the "Thwaq" mines, namely the positioning of the Dissolving Arming Disc, which is central on the "Midi" mine and offset on the "Thwaq" mine.

8. The buoyancy of an object can be calculated by comparing the Buoyancy Force (Newtons (N)) against the Gravity Force (N).

Buoyancy Force = Volume (m^3) x Density of Water (kg/m^3) x Force of Gravity (g) (m/s^2)

Gravity Force = Mass (kg) x g (m/s^2)

9. If the buoyancy force is greater than the gravity force then the improvised mine will float. In this case the steel thickness of the improvised mine body will be the determining factor as to whether the improvised mines float or sink. For these improvised sea mines if the steel is thicker than 7mm the improvised mines will sink.

Annex 42: Technical analysis of ATGW 9M133 'Kornet' versus 'Dehleyvah'

1. Tables 42.1 and 42.2 show the location of the markings and other "identifiers". Supporting imagery is at figures 42.1 to 42.4.

Table 42.1
Identifiers for ATGM type (9M133 'Kornet' v 'Dehleyvah')

Serial	Identifier or markings	9M133 'Kornet'	'Dehleyvah'	Remarks
1	End Cap Chamfer	Minimal	Pronounced	
2	Tube Code	Yes	None	K (K) = Warhead Type H (N) = Warhead Code
3	Warhead Filling and Date	Yes	None	
4	Load Condition	Yes	None	OK CHAP means Fuzed
5	Missile Type Code	Numerical only	Numerical and text	M (M) = Missile Code
6	Lot / Batch Number	02 - 08	LOT: 07 DATE: 2015	
7	ATGM Serial Number	Numerical only	S/N: then Numerical	
8	Temperature Limitations	None	-20°C to +50°C	
9	Body Colour	Sandy Green	Olive Green	
10	Tube Material	Wrapped GRP	Extruded	
11	Font for Markings	Stencil type	Block type	

Table 42.2
Identifiers for ATGM type (9M133-1 'Kornet' (Export Version) v 'Dehleyvah')

Serial	Identifier or markings	9M133-1 'Kornet'	'Dehleyvah'	Remarks
1	End Cap Chamfer	Minimal	Pronounced	
2	Tube Code	Yes	None	K (K) = Warhead Type H (N) = Warhead Code
3	Load Condition	Yes	None	FULLY LOADED means Fuzed
4	Missile Type Code	Numerical only	Numerical and text	M (M) = Missile Code
5	Lot / Batch Number	02 - 08	LOT: 07 DATE: 2015	
6	ATGM Serial Number	Numerical only	S/N: then Numerical	
7	Temperature Limitations	None	-20°C to +50°C	
8	Body Colour	Sand	Olive Green	
9	Tube Material	Wrapped GRP	Extruded	
10	Font for Markings	Stencil type	Block type	

Figure 42.1

9M133 'Kornet' ATGM[1]

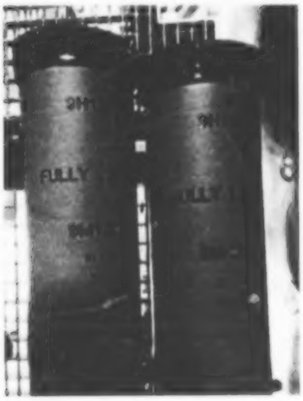
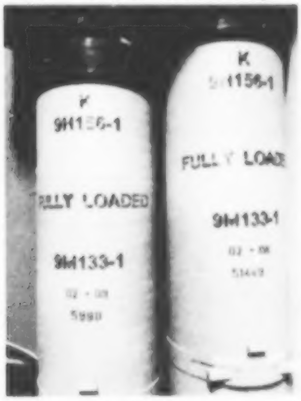


Figure 42.2

9M133 'Kornet' ATGM (Export Version)[2]



K
9H156-1
FULLY LOADED
9M133-1
02 - 08
5990
K
9H156-1
FULLY LOADED
9M133-1
02 - 08

Figure 42.3

'Dehleyvah' ATGM[3]

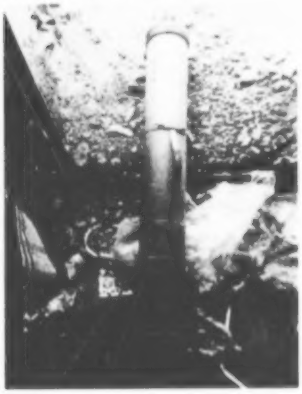


Figure 42.3

'Dehleyvah' ATGM markings[4]

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[1] Panel image

[2] Ibid

[3] Confidential source

[4] Ibid

Annex 43: Summary of black market small arms ammunition prices[1]

Figure 43.1
Graph of Black Market prices (Yemen) (2015 – 2017)

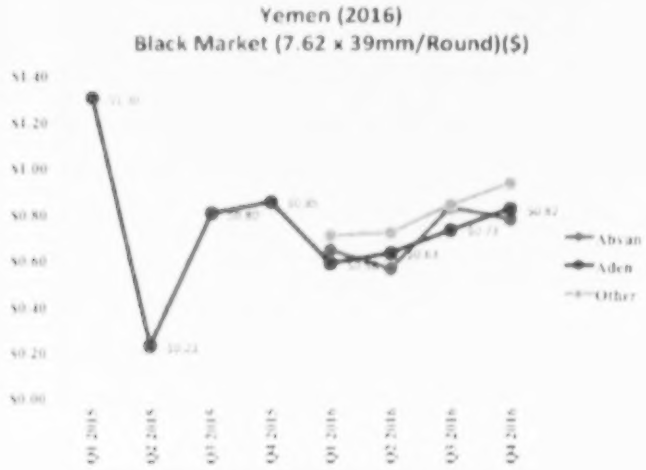
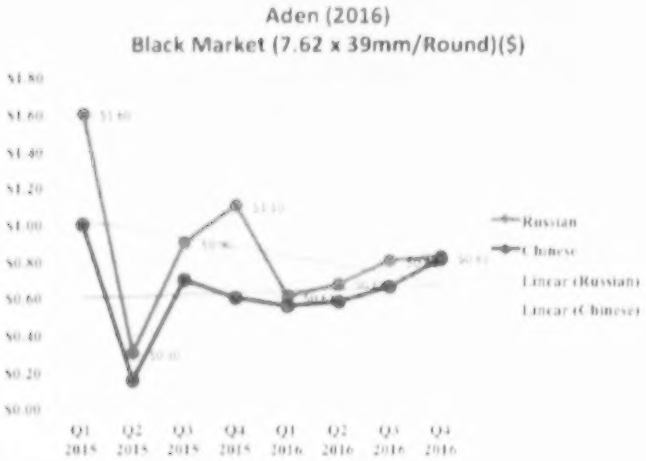


Figure 43.2
Graph of Black Market prices (Aden) (2015 - 2017)



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[1] Data sourced from a UN agency in Yemen

Figure 43.3
Graph of Black Market prices (Abyan) (2016 - 2017)

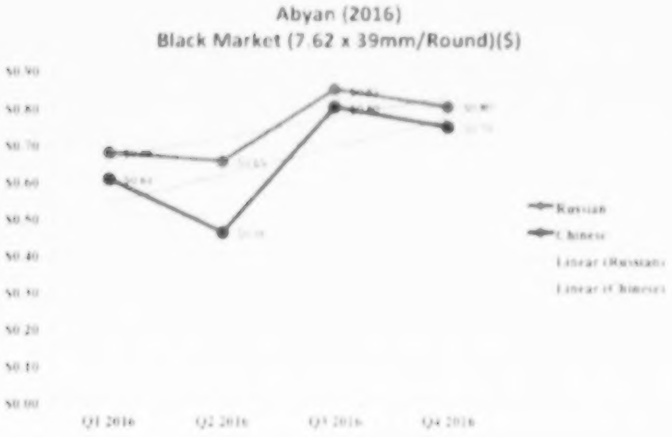
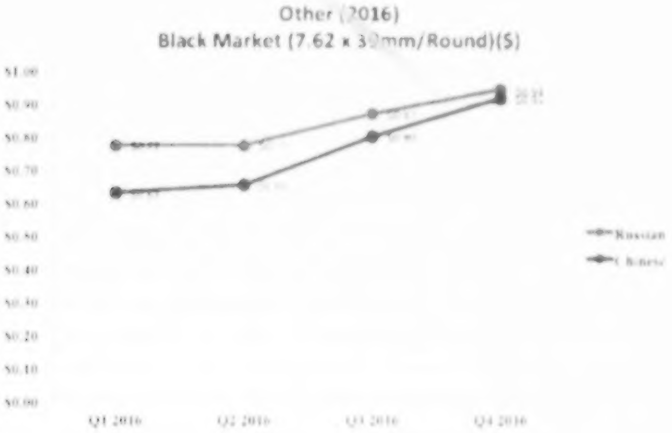
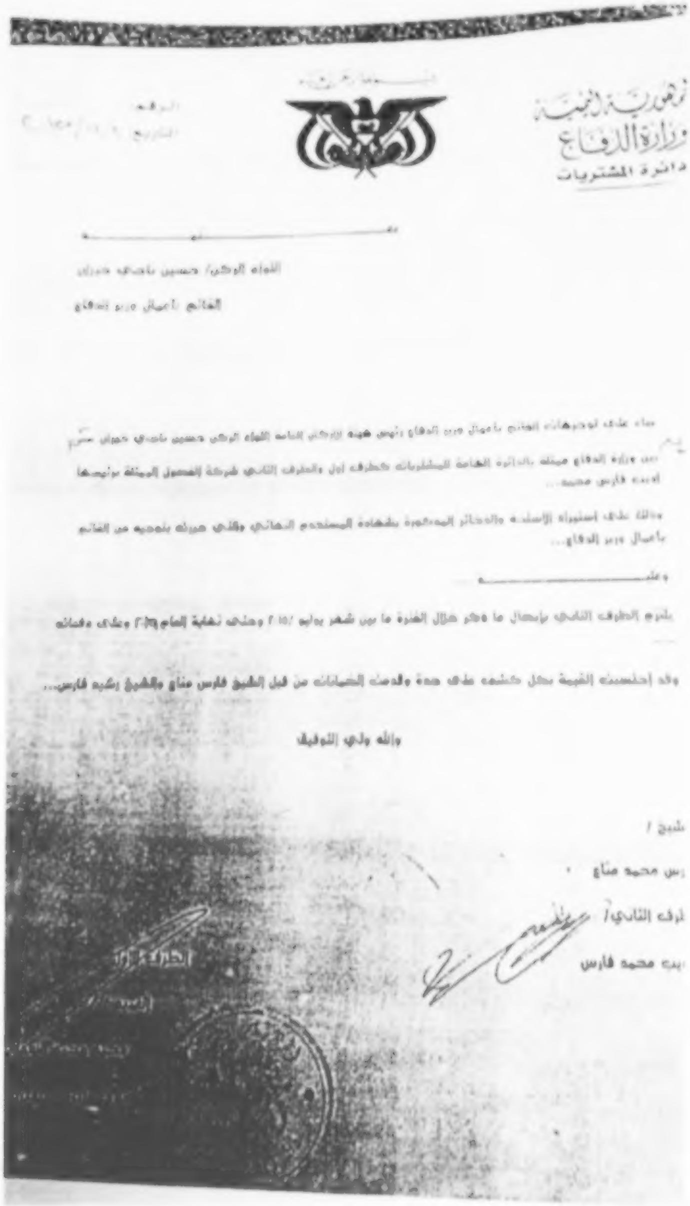


Figure 43.4
Graph of Black Market prices (Other) (2016 - 2017)



Annex 44: End User Certificates

Figure 44.1
EUC related letter from Houthi-Saleh administration



الجمهورية اليمنية
وزارة الدفاع
دائرة المشتريات

الرقم:
التاريخ:

اللواء الركن/ حسين ناجي خيران

القائم بأعمال وزير الدفاع

بناء على توجيهات القائم بأعمال وزير الدفاع رئيس هيئة الأركان العامة اللواء الركن حسين ناجي خيران تم [illegible]

بين وزارة الدفاع ممثلة بالدائرة العامة للمشتريات كطرف أول والطرف الثاني شركة الفضول الممثلة برئيسها [illegible] فارس محمد...

وذلك على استيراد الأسلحة والذخائر المذكورة بشهادة المستخدم النهائي وفي حوزته بتوجيه من القائم بأعمال وزير الدفاع...

وعليــــــــــــــه

يلتزم الطرف الثاني بإيصال ما ذكر خلال الفترة ما بين شهر يوليو ٢٠١٥ وحتى نهاية العام ٢٠١٦ وعلى ضمانته

وقد احتسبت القيمة بكل شحنة على حدة وقدمت الضمانات من قبل الشيخ فارس مناع والشيخ رشيد فارس...

والله ولي التوفيق

شيخ /
رس محمد مناع
رف الثاني/
يه محمد فارس

UN official translation from Arabic [1]

Republic of Yemen
Ministry of Defence
Procurement Office

No.:

Date: 1 July 2015

Major General Husayn Najiy Khayran
Acting Minister of Defence

On the instructions of the acting Minister of Defence and Chief of the General Staff, Major General Husayn Najiy Khayran, [handwritten addition, illegible] between the Ministry of Defence, represented by the Procurement Office, being the first party, and the Fusul corporation, represented by its director, Mr. Adib Fares Mohammed, being the second party, for the importation of the arms and ammunition mentioned in the end user certificate that was drafted on the instructions of the acting Minister of Defence.

Accordingly, the second party undertakes to deliver in instalments the above-mentioned in the period between July 2015 and the end of 2016.

The value was calculated on the basis of each invoice individually and guarantees were offered by Mr. Fares Mana'a and Mr. Rashid Fares.

Mr. Fares Mohammed Mana'a

Second party

(*Signed*) Mr. Adib Mohammed Fares

First party

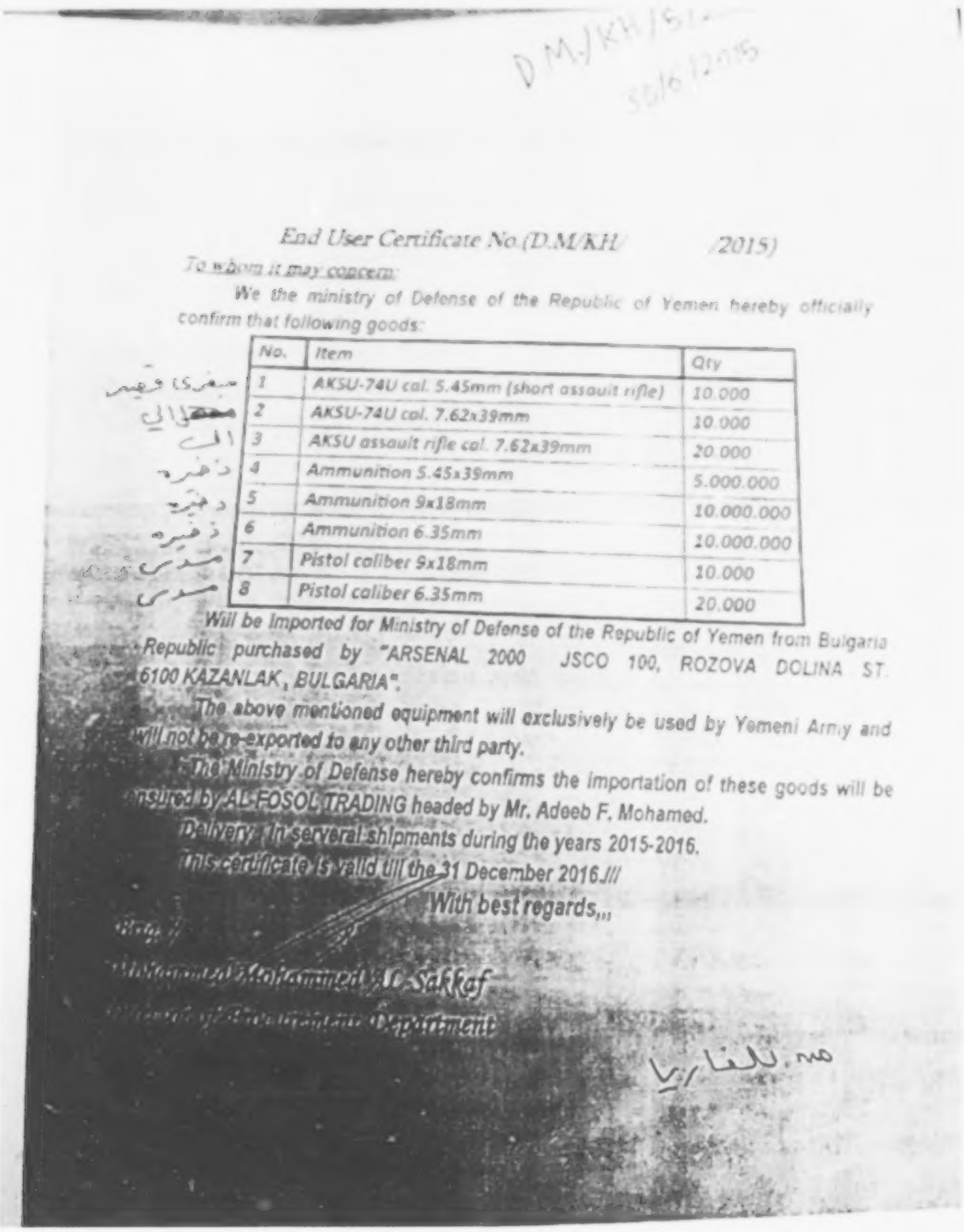
[stamped] (*Signed*) Colonel Muhammad Muhammad al-Saqqaf

Director, Procurement Office

---

[1] 1702089E dated 13 February 2017

Figure 4.2
EUC to support possible attempt to procure arms from Bulgaria



D.M./KH/51
30/6/2015

End User Certificate No.(D.M/KH/ /2015)

To whom it may concern:

We the ministry of Defense of the Republic of Yemen hereby officially confirm that following goods:

	No.	Item	Qty
صغري قصير	1	AKSU-74U cal. 5.45mm (short assault rifle)	10.000
~~[illegible]~~ الي	2	AKSU-74U cal. 7.62x39mm	10.000
الي	3	AKSU assault rifle cal. 7.62x39mm	20.000
ذخيرة	4	Ammunition 5.45x39mm	5.000.000
ذخيرة	5	Ammunition 9x18mm	10.000.000
ذخيرة	6	Ammunition 6.35mm	10.000.000
مسدس	7	Pistol caliber 9x18mm	10.000
مسدس	8	Pistol caliber 6.35mm	20.000

Will be Imported for Ministry of Defense of the Republic of Yemen from Bulgaria Republic purchased by "ARSENAL 2000 JSCO 100, ROZOVA DOLINA ST. 6100 KAZANLAK, BULGARIA".

The above mentioned equipment will exclusively be used by Yemeni Army and will not be re-exported to any other third party.

The Ministry of Defense hereby confirms the importation of these goods will be ensured by AL-FOSOL TRADING headed by Mr. Adeeb F. Mohamed.

Delivery: In serveral shipments during the years 2015-2016.

This certificate is valid till the 31 December 2016.///

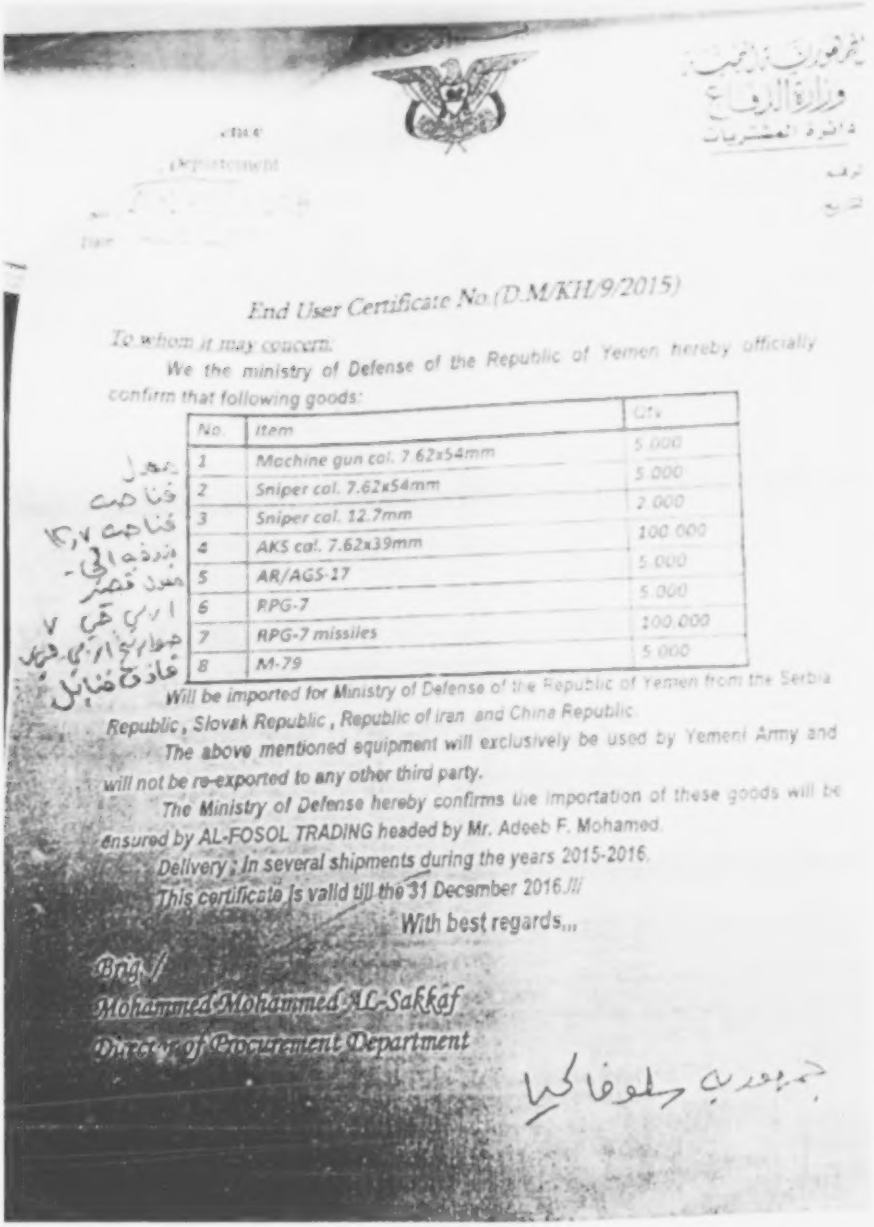
With best regards,,,

Brig./
Mohammed Mohammed Al-Sakkaf
Director of Procurement Department

[illegible]

Figure 44.1

EUC to support possible attempt to procure arms from China, Iran, Serbia and Slovak Republic



الجمهورية اليمنية
وزارة الدفاع
دائرة المشتريات
الرقم
التاريخ

ence
Department
Date

End User Certificate No.(D.M/KH/9/2015)

To whom it may concern:

We the ministry of Defense of the Republic of Yemen hereby officially confirm that following goods:

No.	Item	Qty
1	Machine gun cal. 7.62x54mm	5.000
2	Sniper cal. 7.62x54mm	5.000
3	Sniper cal. 12.7mm	2.000
4	AKS cal. 7.62x39mm	100.000
5	AR/AGS-17	5.000
6	RPG-7	5.000
7	RPG-7 missiles	100.000
8	M-79	5.000

معدل
قناصة
قناصة ١٢,٧
بندقية آلي -
مدفع قصير
آر بي جي ٧
صواريخ آر بي جي قذيفة
قاذف قنابل

***Will be imported for Ministry of Defense** of the Republic of Yemen from the Serbia **Republic, Slovak Republic, Republic of iran** and China Republic.*

The above mentioned equipment will exclusively** be used by Yemeni Army and **will not be re-exported to any other third party.

***The Ministry of Defense hereby confirms** the importation of these goods will be **ensured by AL-FOSOL TRADING headed by Mr.** Adeeb F. Mohamed.*

Delivery : In several shipments during the years 2015-2016.

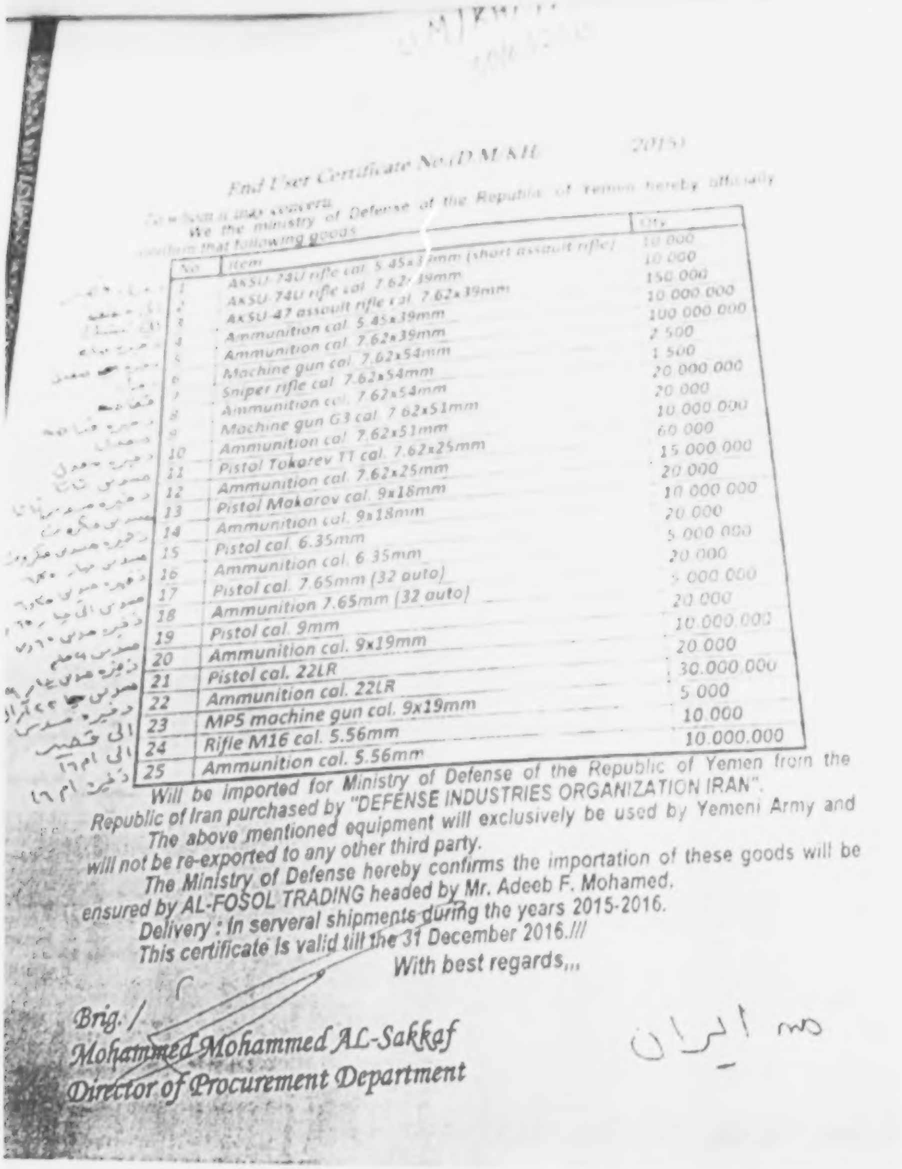
This certificate is valid till the 31 December 2016.///

With best regards,,,

Brig./
Mohammed Mohammed AL-Sakkaf
Director of Procurement Department

جمهورية سلوفاكيا

Figure 44.4
Second EUC to support possible attempt to procure arms from Iran



End User Certificate No.(D.M.KH/ 2015)

To whom it may concern,
We the ministry of Defense of the Republic of Yemen hereby officially confirm that following goods

No.	Item	Qty
1	AKSU-74U rifle cal 5.45x39mm (short assault rifle)	10 000
2	AKSU-74U rifle cal 7.62x39mm	10 000
3	AKSU-47 assault rifle cal 7.62x39mm	150 000
4	Ammunition cal 5.45x39mm	10 000 000
5	Ammunition cal 7.62x39mm	100 000 000
6	Machine gun cal 7.62x54mm	2 500
7	Sniper rifle cal 7.62x54mm	1 500
8	Ammunition cal. 7.62x54mm	20 000 000
9	Machine gun G3 cal 7.62x51mm	20 000
10	Ammunition cal 7.62x51mm	10 000 000
11	Pistol Tokarev TT cal. 7.62x25mm	60 000
12	Ammunition cal. 7.62x25mm	15 000 000
13	Pistol Makarov cal. 9x18mm	20 000
14	Ammunition cal. 9x18mm	10 000 000
15	Pistol cal. 6.35mm	20 000
16	Ammunition cal. 6.35mm	5 000 000
17	Pistol cal. 7.65mm (32 auto)	20 000
18	Ammunition 7.65mm (32 auto)	5 000 000
19	Pistol cal. 9mm	20 000
20	Ammunition cal. 9x19mm	10.000.000
21	Pistol cal. 22LR	20.000
22	Ammunition cal. 22LR	30.000.000
23	MP5 machine gun cal. 9x19mm	5 000
24	Rifle M16 cal. 5.56mm	10.000
25	Ammunition cal. 5.56mm	10.000.000

مسدس تاتا
ذخيرة مسدس تاتا
مسدس مكروف
ذخيرة مسدس مكروف
ذخيرة مسدس ٩ ملم
الى ام١٦
ذخيرة ام١٦

Will be imported for Ministry of Defense of the Republic of Yemen from the Republic of Iran purchased by "DEFENSE INDUSTRIES ORGANIZATION IRAN".

The above mentioned equipment will exclusively be used by Yemeni Army and will not be re-exported to any other third party.

The Ministry of Defense hereby confirms the importation of these goods will be ensured by AL-FOSOL TRADING headed by Mr. Adeeb F. Mohamed.

Delivery : In serveral shipments during the years 2015-2016.

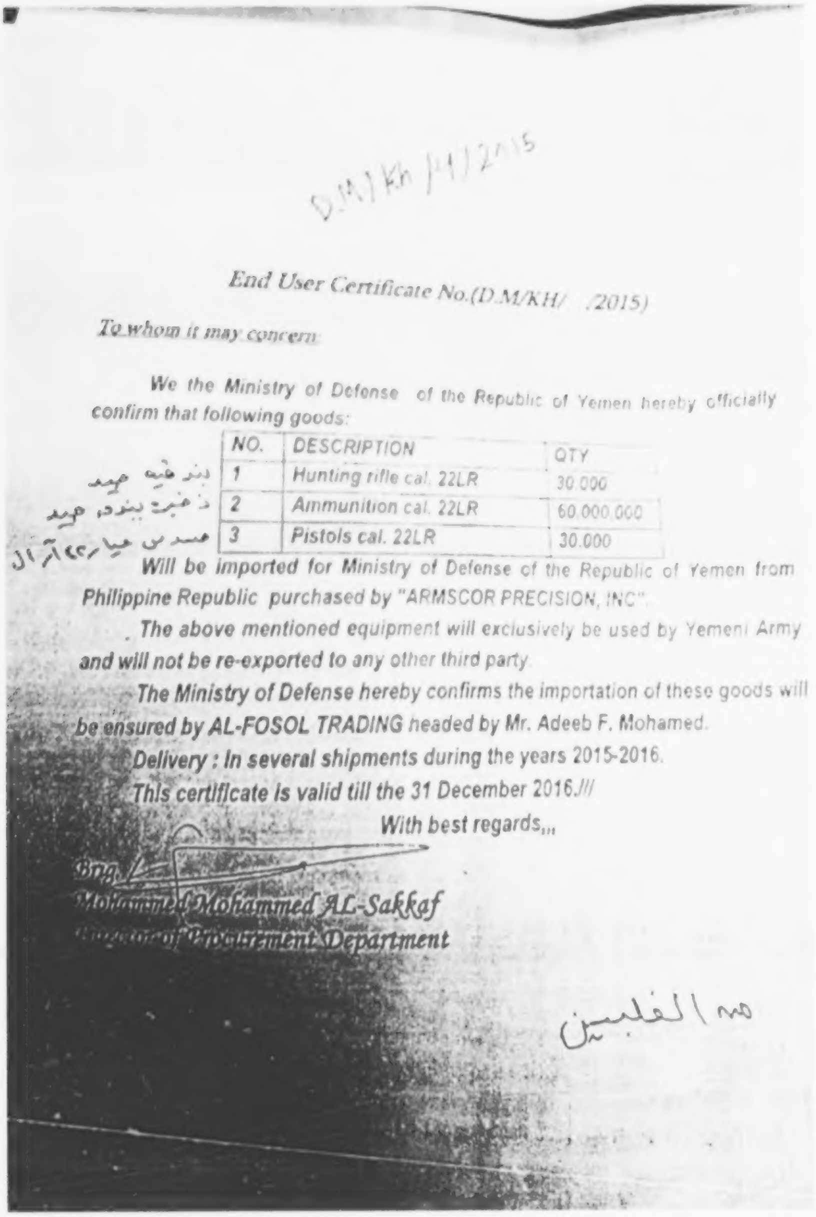
This certificate Is valid till the 31 December 2016.///

With best regards,,,

Brig./
Mohammed Mohammed AL-Sakkaf
Director of Procurement Department

من ايران

Figure 44.5
EUC to support possible attempt to procure arms from the Philippines



D.M/Kh /14/2015

End User Certificate No.(D.M/KH/ ./2015)

To whom it may concern:

We the Ministry of Defense of the Republic of Yemen hereby officially confirm that following goods:

بندقية جديد
ذخيرة بنادق جديد
مسدس عيار ٢٢ آر ال

NO.	DESCRIPTION	QTY
1	Hunting rifle cal. 22LR	30.000
2	Ammunition cal. 22LR	60.000.000
3	Pistols cal. 22LR	30.000

Will be imported for Ministry of Defense of the Republic of Yemen from Philippine Republic purchased by "ARMSCOR PRECISION, INC".

. The above mentioned equipment will exclusively be used by Yemeni Army and will not be re-exported to any other third party.

- The Ministry of Defense hereby confirms the importation of these goods will be ensured by AL-FOSOL TRADING headed by Mr. Adeeb F. Mohamed.

Delivery : In several shipments during the years 2015-2016.

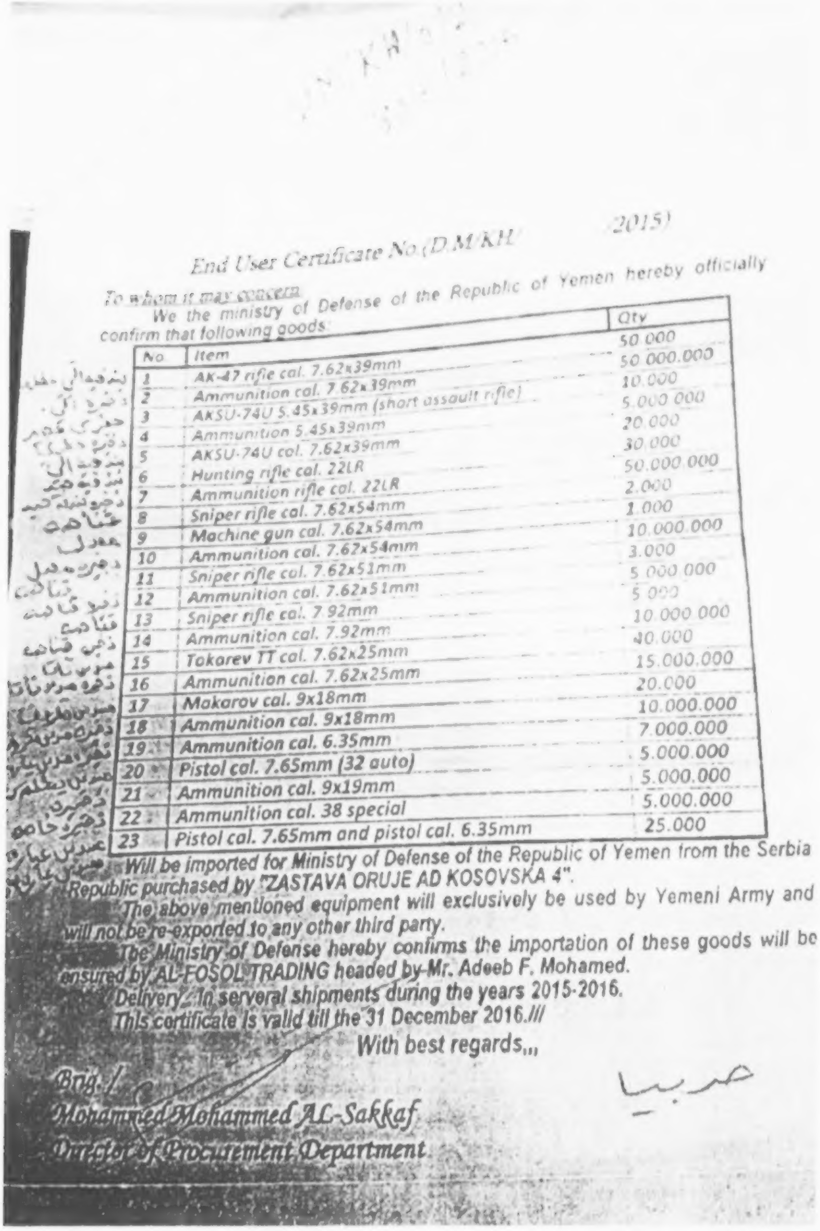
This certificate is valid till the 31 December 2016.///

With best regards,,,

Brg.
Mohammed Mohammed AL-Sakkaf
Director of Procurement Department

من الفلبين

Figure 44.6
Second EUC to support possible attempt to procure arms from Serbia



End User Certificate No (D.M/KH/ 2015)

To whom it may concern

We the ministry of Defense of the Republic of Yemen hereby officially confirm that following goods:

No	Item	Qty
1	AK-47 rifle cal. 7.62x39mm	50.000
2	Ammunition cal. 7.62x39mm	50.000.000
3	AKSU-74U 5.45x39mm (short assault rifle)	10.000
4	Ammunition 5.45x39mm	5.000.000
5	AKSU-74U cal. 7.62x39mm	20.000
6	Hunting rifle cal. 22LR	30.000
7	Ammunition rifle cal. 22LR	50.000.000
8	Sniper rifle cal. 7.62x54mm	2.000
9	Machine gun cal. 7.62x54mm	1.000
10	Ammunition cal. 7.62x54mm	10.000.000
11	Sniper rifle cal. 7.62x51mm	3.000
12	Ammunition cal. 7.62x51mm	5.000.000
13	Sniper rifle cal. 7.92mm	5.000
14	Ammunition cal. 7.92mm	10.000.000
15	Tokarev TT cal. 7.62x25mm	40.000
16	Ammunition cal. 7.62x25mm	15.000.000
17	Makarov cal. 9x18mm	20.000
18	Ammunition cal. 9x18mm	10.000.000
19	Ammunition cal. 6.35mm	7.000.000
20	Pistol cal. 7.65mm (32 auto)	5.000.000
21	Ammunition cal. 9x19mm	5.000.000
22	Ammunition cal. 38 special	5.000.000
23	Pistol cal. 7.65mm and pistol cal. 6.35mm	25.000

Will be imported for Ministry of Defense of the Republic of Yemen from the Serbia Republic purchased by "ZASTAVA ORUJE AD KOSOVSKA 4".

The above mentioned equipment will exclusively be used by Yemeni Army and will not be re-exported to any other third party.

The Ministry of Defense hereby confirms the importation of these goods will be ensured by AL-FOSOL TRADING headed by Mr. Adeeb F. Mohamed.

Delivery: In serveral shipments during the years 2015-2016.

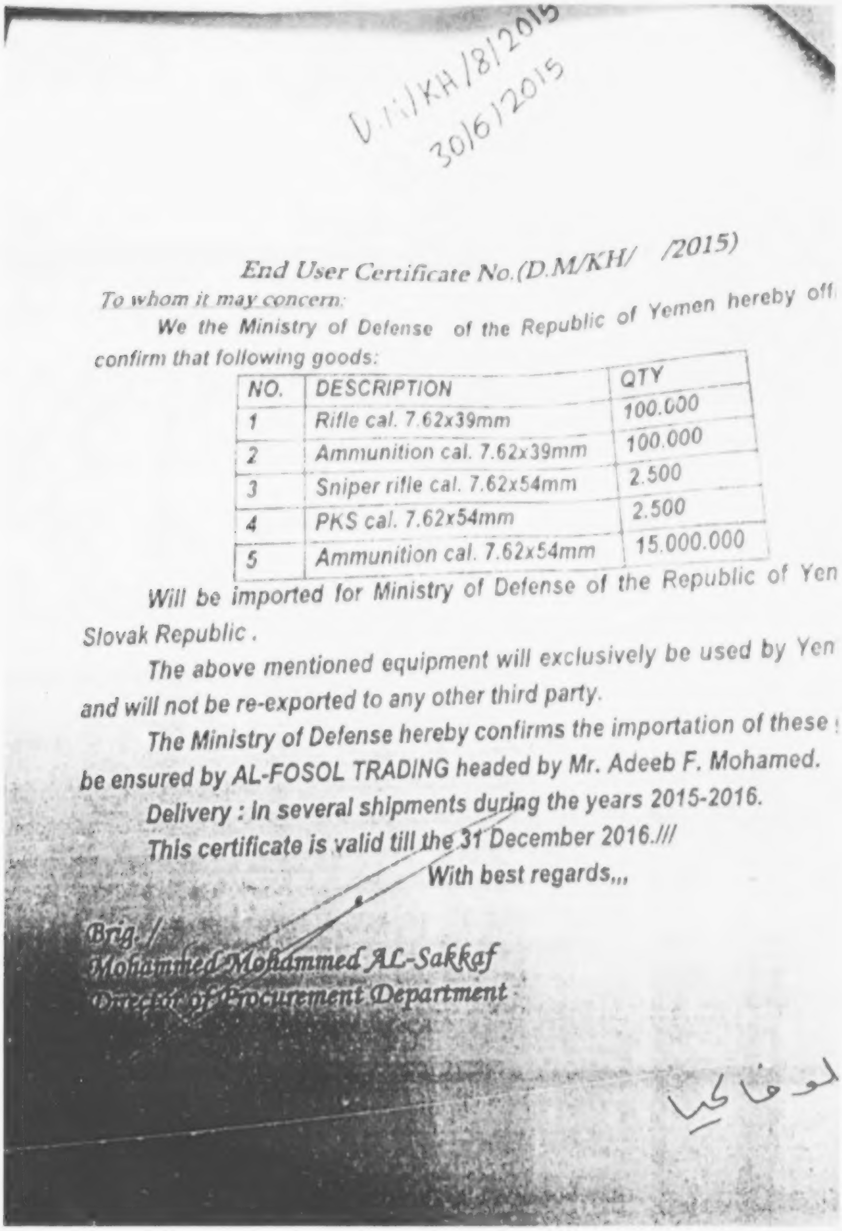
This certificate is valid till the 31 December 2016.///

With best regards,,,

Brig./
Mohammed Mohammed AL-Sakkaf
Director of Procurement Department

صربيا

Figure 44.7
Second, third and fourth EUC to support possible attempt to procure arms from the Slovak Republic



D.M/KH/8/2015
30/6/2015

End User Certificate No.(D.M/KH/ /2015)

To whom it may concern:

We the Ministry of Defense of the Republic of Yemen hereby off

confirm that following goods:

NO.	DESCRIPTION	QTY
1	Rifle cal. 7.62x39mm	100.000
2	Ammunition cal. 7.62x39mm	100.000
3	Sniper rifle cal. 7.62x54mm	2.500
4	PKS cal. 7.62x54mm	2.500
5	Ammunition cal. 7.62x54mm	15.000.000

Will be imported for Ministry of Defense of the Republic of Yen

Slovak Republic .

The above mentioned equipment will exclusively be used by Yen

and will not be re-exported to any other third party.

The Ministry of Defense hereby confirms the importation of these

be ensured by AL-FOSOL TRADING headed by Mr. Adeeb F. Mohamed.

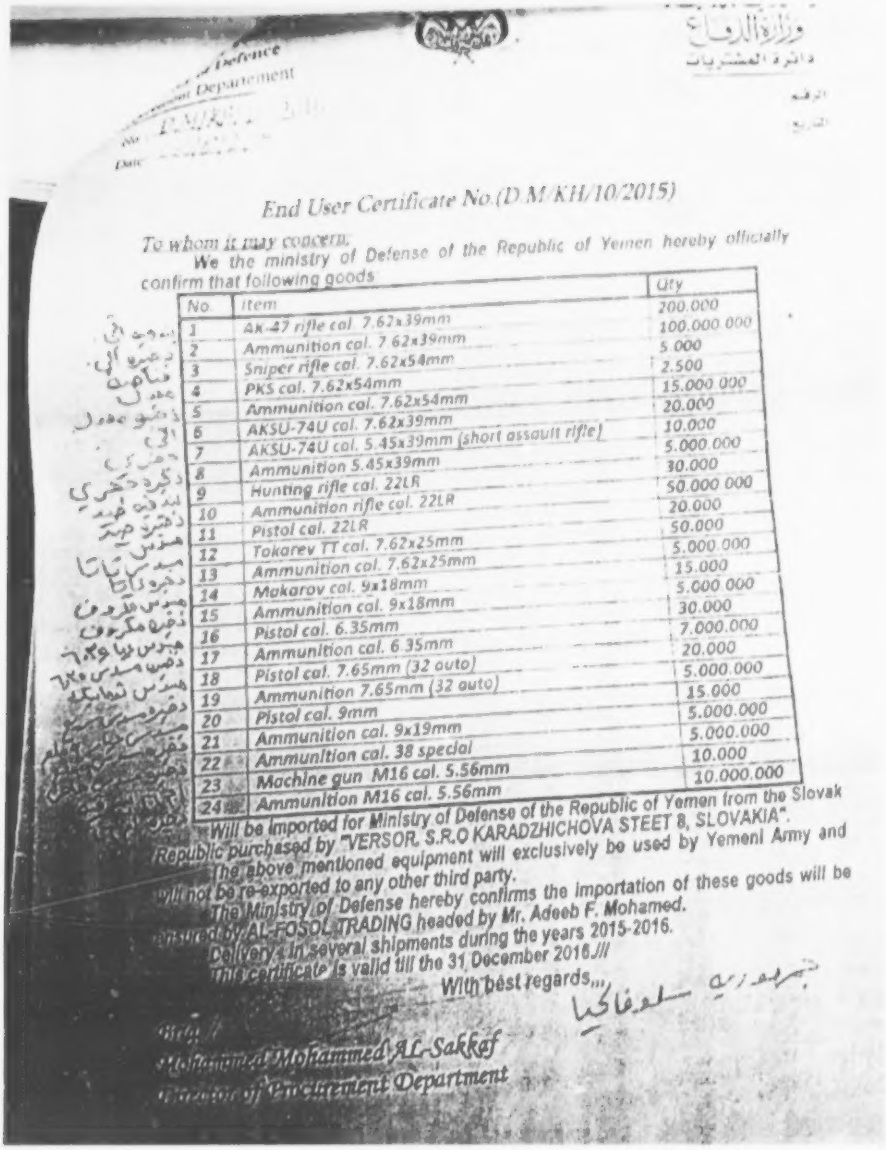
Delivery : In several shipments during the years 2015-2016.

This certificate is valid till the 31 December 2016.///

With best regards,,,

Brig./
Mohammed Mohammed AL-Sakkaf
Director of Procurement Department

لوفاكيا



…Defence
…Department
No. D.M/KH/… 2016
Date …

وزارة الدفاع
دائرة المشتريات
الرقم
التاريخ

End User Certificate No.(D.M/KH/10/2015)

To whom it may concern;

We the ministry of Defense of the Republic of Yemen hereby officially confirm that following goods

		Qty
No.	item	200.000
1	AK-47 rifle cal. 7.62x39mm	100.000.000
2	Ammunition cal. 7.62x39mm	5.000
3	Sniper rifle cal. 7.62x54mm	2.500
4	PKS cal. 7.62x54mm	15.000.000
5	Ammunition cal. 7.62x54mm	20.000
6	AKSU-74U cal. 7.62x39mm	10.000
7	AKSU-74U cal. 5.45x39mm (short assault rifle)	5.000.000
8	Ammunition 5.45x39mm	30.000
9	Hunting rifle cal. 22LR	50.000.000
10	Ammunition rifle cal. 22LR	20.000
11	Pistol cal. 22LR	50.000
12	Tokarev TT cal. 7.62x25mm	5.000.000
13	Ammunition cal. 7.62x25mm	15.000
14	Makarov cal. 9x18mm	5.000.000
15	Ammunition cal. 9x18mm	30.000
16	Pistol cal. 6.35mm	7.000.000
17	Ammunition cal. 6.35mm	20.000
18	Pistol cal. 7.65mm (32 auto)	5.000.000
19	Ammunition 7.65mm (32 auto)	15.000
20	Pistol cal. 9mm	5.000.000
21	Ammunition cal. 9x19mm	5.000.000
22	Ammunition cal. 38 special	10.000
23	Machine gun M16 cal. 5.56mm	10.000.000
24	Ammunition M16 cal. 5.56mm	

بندق آلي
ذخيرة آلي
قناص
معدل
ذخيرة معدل
آلي
[illegible]
ذخيرة [illegible]
بندقية صيد
ذخيرة صيد
مسدس
مسدس تاتا
ذخيرة تاتا
مسدس مكروف
ذخيرة مكروف
مسدس بريتا ٦٫٣٥
ذخيرة مسدس ٦٫٣٥
مسدس [illegible]
ذخيرة [illegible]
[illegible]

Will be imported for Ministry of Defense of the Republic of Yemen from the Slovak Republic purchased by "VERSOR. S.R.O KARADZHICHOVA STEET 8, SLOVAKIA".

The above mentioned equipment will exclusively be used by Yemeni Army and will not be re-exported to any other third party.

The Ministry of Defense hereby confirms the importation of these goods will be ensured by AL-FOSOL TRADING headed by Mr. Adeeb F. Mohamed.

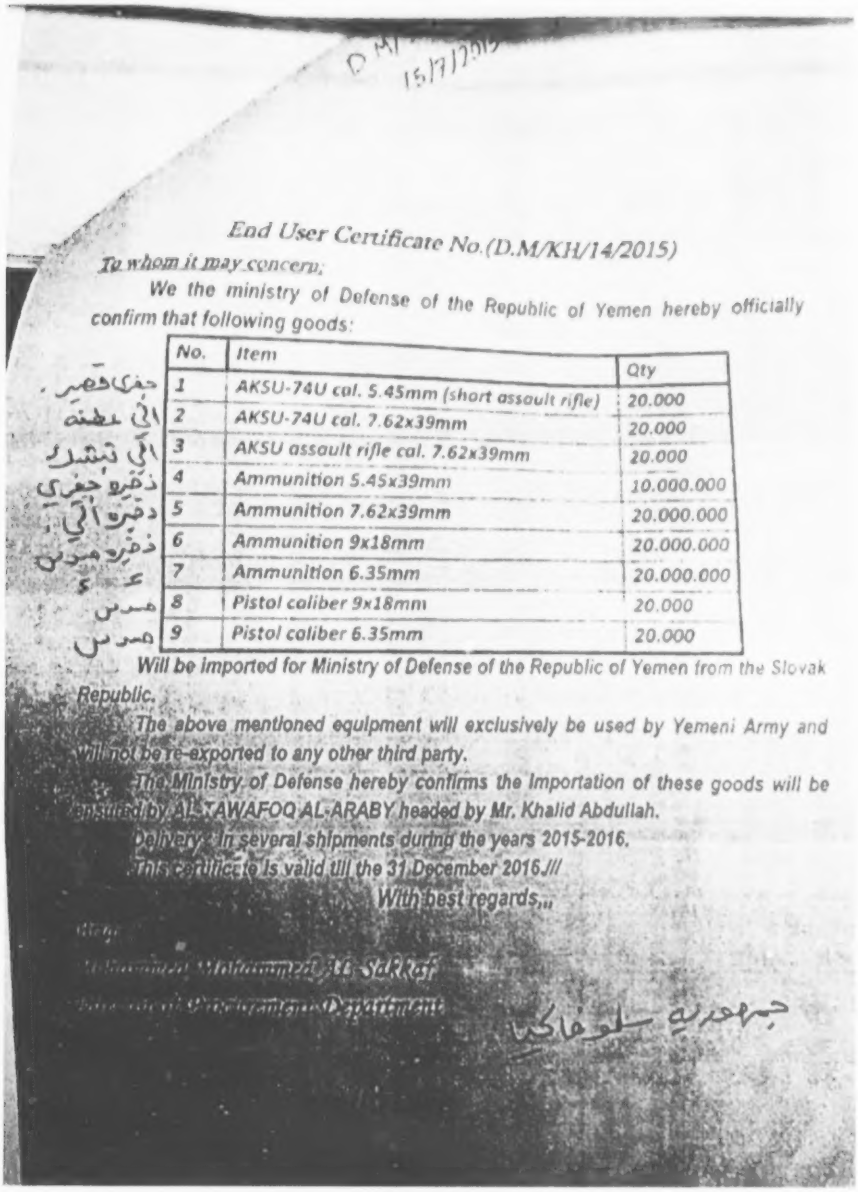
Delivery is in several shipments during the years 2015-2016.

This certificate is valid till the 31 December 2016.///

With best regards,,,

جمهورية سلوفاكيا

Brig./
Mohammed Mohammed AL-Sakkaf
Director of Procurement Department



D.M/
15/7/201

End User Certificate No.(D.M/KH/14/2015)

To whom it may concern;

We the ministry of Defense of the Republic of Yemen hereby officially confirm that following goods:

	No.	Item	Qty
جفري قصير	1	AKSU-74U cal. 5.45mm (short assault rifle)	20.000
آلي [illegible]	2	AKSU-74U cal. 7.62x39mm	20.000
آلي [illegible]	3	AKSU assault rifle cal. 7.62x39mm	20.000
ذخيرة جفري	4	Ammunition 5.45x39mm	10.000.000
ذخيرة آلي	5	Ammunition 7.62x39mm	20.000.000
ذخيرة مسدس	6	Ammunition 9x18mm	20.000.000
ع ٤	7	Ammunition 6.35mm	20.000.000
مسدس	8	Pistol caliber 9x18mm	20.000
مسدس	9	Pistol caliber 6.35mm	20.000

Will be imported for Ministry of Defense of the Republic of Yemen from the Slovak Republic.

The above mentioned equipment will exclusively be used by Yemeni Army and will not be re-exported to any other third party.

The Ministry of Defense hereby confirms the Importation of these goods will be ensured by AL-TAWAFOQ AL-ARABY headed by Mr. Khalid Abdullah.

Delivery: In several shipments during the years 2015-2016.

This certificate Is valid till the 31 December 2016.///

With best regards,,,

Brig:

Mohammed Mohammed AL-SaKKaf

Director of Procurement Department

جمهورية سلوفاكيا

Annex 45: Estimated revenue available to groups based on 2011 CBY budget

Table 45.1
2011 Budget estimated revenues (YER Million)

Budget item	*Designation*	*Central authorities*	*Local authorities*	*Current control*
1	Tax	363,837	16,929	
1.1	Zakat		11,588	Houthi
1.1.1.1	Zakat agriculture		397	Houthi
1.1.1.2	Zakat qat		837	Houthi
1.1.1.3	Zakat vegetables		234	Houthi
1.1.1.4	Zakat animals		33	Houthi
1.1.1.5	Zakat public companies		2,137	Houthi
1.1.1.6	Zakat private companies		4,883	Houthi
1.1.1.7	Zakat individuals		1,404	Houthi
1.1.1.8	Zakat fitra[1]		1,053	Houthi
1.1.1.9	Other zakat		605	Houthi
1.2	Tax on revenues	170,067	1,653	
1.2.1.1	Tax state salaries	*73,996*		Houthi
1.2.1.2	Tax salaries joint companies	*17,175*		Houthi
1.2.1.3	Tax salaries private companies	*19,148*		Houthi
1.2.1.4	Liberal professions		462	Houthi
1.2.1.5	Estate rent tax		1,190	Houthi
1.2.1.6	Estate sale tax	*1,797*		Houthi
1.2.2.	Corporate income tax	*56,797*		Houthi
1.2.3.1	Tax penalties	*1,146*		Houthi
1.5	Commodities and services	137,403		
1.5.1.1	Fuel	*22,215*		Houthi
1.5.1.3	Cigarettes	*31,999*		Houthi
1.5.1.4	Qat		2,321	Houthi
1.5.1.5	Others	*12,462*		Houthi
1.5.1.11	Tax construction products	*46,389*		Both
1.5.1.12	Other commodities	*52,674*		
1.5.1.13	Services and cell phones	*11,376*		Houthi
1.5.1.16	Other services	*56,318*		
1.5.4.14	Tax telecommunications	*2,899*		Houthi
1.6.1.	Customs	52,979		
1.6.1.1	Vehicles	*6,124*		Import, reduced[2]
1.6.1.2	Electric equipment	*1,725*		Import, reduced

---

[1] Zakat given by all Muslims after the completion of the fasting month of Ramadan

[2] The term reduced means that the revenue available now is reduced from that available in 2011 due to the conflict

Budget item	*Designation*	*Central authorities*	*Local authorities*	*Current control*
1.6.1.3	Medical	*2,657*		Houthi
1.6.1.7	Customs others	*42,470*		
2	Foreign Assistance	36,278		Government
2.1.x.x	Foreign government donors	*17,823*		
2.2.x.x	International organizations donors	*18,455*		
3	Revenues Public Ownership	1,318,793		Houthi
3.1.2.2	Industrial revenues	*1,754*		Severely reduced
3.1.2.3	Telecom revenues	*14,945*		Houthi
3.1.2.5	Financial revenues	*17,203*		Severely reduced
3.1.2.6	Public extractive revenues	*11,076*		Government, reduced
3.1.4.1	Oil exports	*728,287*		Government, reduced
3.1.4.2	Oil internal consumption	*393,051*		Government, reduced
3.1.4.3	Natural gas exports	*38,474*		Government, reduced
3.1.4.4	Natural gas internal consumption	*26,195*		Government, reduced
3.1.4.7	Licences mineral exploitation	*20,743*		Government, reduced
3.1.4.8	Tax oil companies	*2,993*		Government, reduced
3.1.4.14	Others	*22,526*		
3.2.1.3	Fisheries revenues	*456*		Government, reduced
3.2.1.4	Vehicle registration	*165*		Houthi, reduced
3.2.1.5	Book sales revenues	*31*		Houthi
3.2.2.3	Registrar revenues	*197*		Houthi
3.2.2.6	Legal registrations	*26*		Houthi, reduced
3.2.2.11	Passports		516	Houthis reduced
3.2.2.14	Consular	*2,273*		Government
3.2.2.15	Identification cards		279	Houthi, reduced
3.2.2.16	Birth registration		7	Houthi
3.2.2.17	Drivers licence		127	Houthi reduced
3.2.2.18	Well digging licence		9	Houthi, reduced
3.2.2.19	Market place		30	Houthi, reduced
3.2.2.20	Central butcheries		12	Houthi, reduced
3.2.3	Non-market institutions	*6,125*		
3.2.3.3	Printed forms	*2,675*		
3.2.3.6	Universities	*72*		Houthi, reduced
3.2.3.23	Others	*3,370*		
3.3	Penalties	*541*		Houthi, reduced
3.5.1	Others	*30,071*		
3.5.1.1	Funds	*7,473*		
3.5.1.3	Waste	*254*		

Budget item	*Designation*	*Central authorities*	*Local authorities*	*Current control*
3.5.1.4	Remaining non-executed budget	*17,218*		
3.5.1.5	Others	*7,114*		
5.4.2.1	Long term securities	14,980		
	Totals	**2,818,623**	**978**	

Table 45.2

Main budget items likely available to the Houthis (YER Millions)

Budget item	*Designation*	*Central authorities*	*Local authorities*	*Under Houthi control*
1	Tax	363,837	16,929	Yes
2	Foreign Assistance	0		No
3	Revenues Public Ownership	43,649	980	Small portion
	Totals	**407,486**	**17,909**	

Annex 46: Customs extortion of traders

1. The Panel gathered evidence indicating that Yahya Mohamed Abdullah al-Osta, the acting head of the Sana'a based Yemen customs authority ("YCA"), appointed by Mohamed Ali Al Houthi on 28 May 2016[1], played a major role in establishing mechanisms with the aim of applying additional customs taxes outside the legal framework. This facilitated the extortion of traders.

2. As the mechanisms did not have any legal basis, al-Osta coerced selected members of the chamber of commerce in Sana'a to sign an agreement allowing inspection and fees associated with them.

3. In early 2017 random customs checks were instigated in the Sana'a area, which targeted traders not affiliated with the Houthis for false customs declaration at the ports. Extortion and customs clearance delays led to discontent within the Sana'a based chamber of commerce, with traders vehemently complaining about the new procedures after the shooting of a trader at a customs check point on 1 March 2017.[2] On 3 March and 8 April 2017, the "YCA" agreed to conduct checks outside the port, although the agreement was coerced and not legal. It was denounced and cancelled publicly by the same chamber on 13 August 2017.

4. Since then Yahya Mohamed Abdullah al-Osta has overseen the implementation of illegal mechanisms for the collection of customs duties for the benefit of Houthi armed groups acting on behalf and under the control of Abdulmalik al-Houthi (YEi 004).

5. On 4 April 2017, the Sana'a based ministry of finance established new permanent customs posts at the Amran and Dhamar checkpoints,[3] designed to exploit the additional taxes as a result of the decrease of traffic from Hudaydah port.

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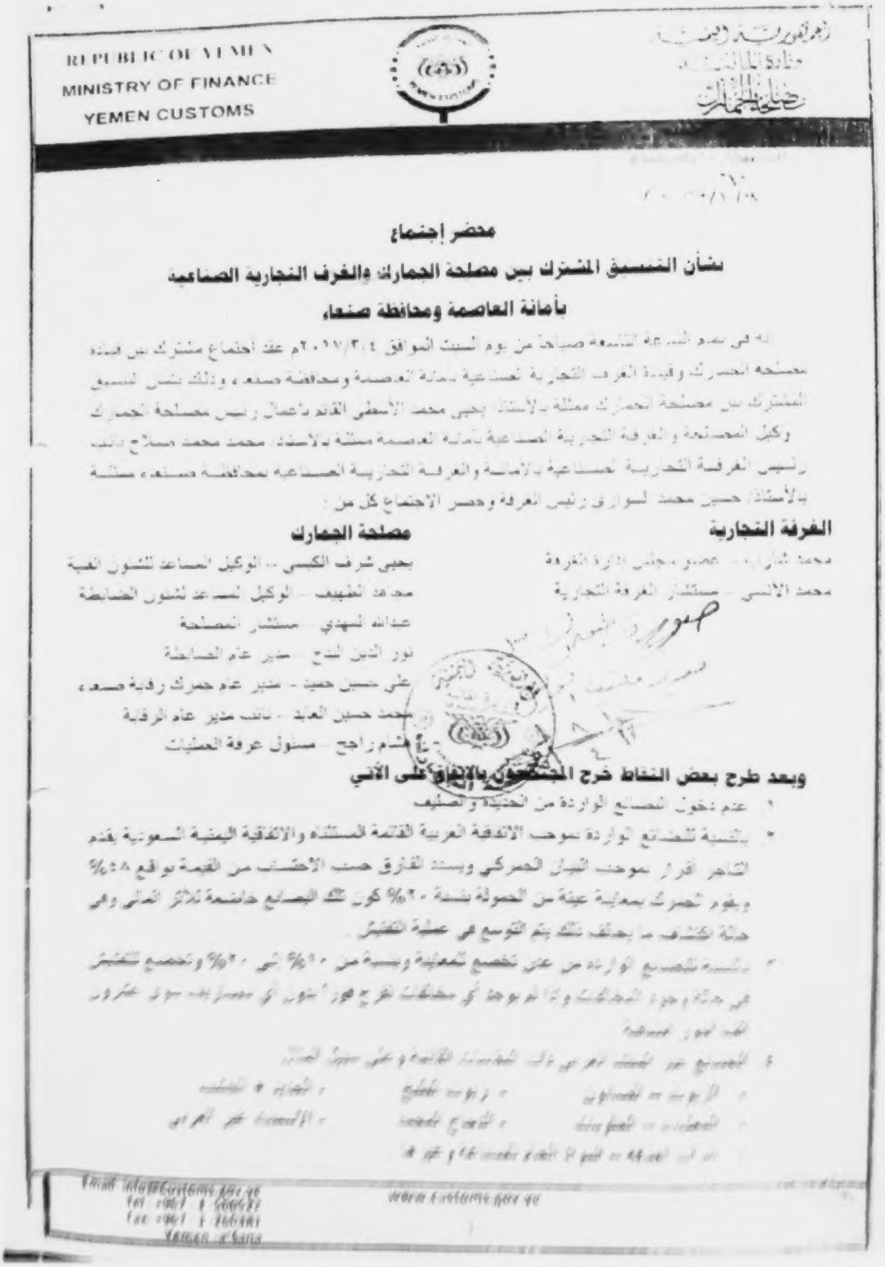
[1] Mohamed Abdullah al-Osta was a mid-level staff member working as a legal advisor within the ministry of finance.
[2] Chamber of Commerce meeting on 1 March 2017, confirmed to the Panel by members of the chamber. https://www.youtube.com/watch?v=1hIFKR7R31k, authenticity confirmed to the Panel by members of the chamber.
[3] Decision 138 of 2017, see http://customs.gov.ye/news_show_ar.php?id=132

Appendix A to Annex 46: Coercion of the chamber of commerce and industry (meeting on 4 March 2017)



REPUBLIC OF YEMEN
MINISTRY OF FINANCE
YEMEN CUSTOMS

الجمهورية اليمنية
وزارة المالية
مصلحة الجمارك

٦٠

محضر إجتماع

بشأن التنسيق المشترك بين مصلحة الجمارك والغرف التجارية الصناعية بأمانة العاصمة ومحافظة صنعاء

إنه في تمام الساعة التاسعة صباحاً من يوم السبت الموافق ٢٠١٧/٣/٤م عقد اجتماع مشترك بين قيادة مصلحة الجمارك وقيادة الغرف التجارية الصناعية بأمانة العاصمة ومحافظة صنعاء ، وذلك بشأن التنسيق المشترك بين مصلحة الجمارك ممثلة بالأستاذ يحيى محمد الأسطى القائم بأعمال رئيس مصلحة الجمارك وكيل المصلحة والغرفة التجارية الصناعية بأمانة العاصمة ممثلة بالأستاذ محمد محمد صلاح نائب رئيس الغرفة التجارية الصناعية بالأمانة والغرفة التجارية الصناعية بمحافظة صنعاء ممثلة بالأستاذ حسين محمد السوار رئيس الغرفة وحضر الاجتماع كل من :

الغرفة التجارية

محمد شارب - عضو مجلس إدارة الغرفة
محمد الأنسي - مستشار الغرفة التجارية

مصلحة الجمارك

يحيى شرف الكبسي - الوكيل المساعد للشئون الفنية
مجاهد الظهيف - الوكيل المساعد للشئون الضابطة
عبدالله المهدي - مستشار المصلحة
نور الدين المدح - مدير عام المكافحة
علي حسين حميد - مدير عام جمرك رقابة صنعاء
محمد حسين العابد - نائب مدير عام الرقابة
هشام راجح - مسئول غرفة العمليات

وبعد طرح بعض النقاط خرج المجتمعون بالإتفاق على الآتي

١ عدم دخول البضائع الواردة من الحديدة والصليف

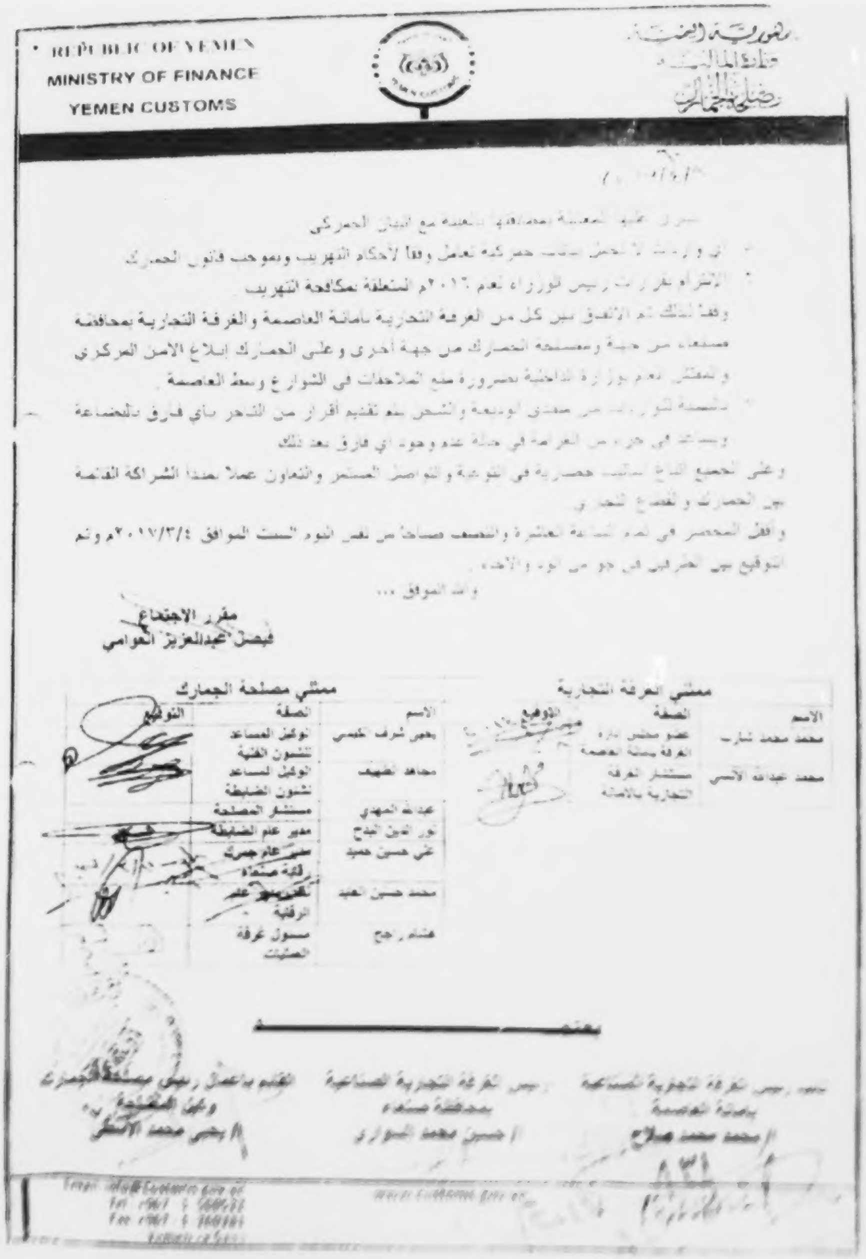
٢ بالنسبة للبضائع الواردة بموجب الاتفاقية العربية القائمة المستثناه والاتفاقية اليمنية السعودية يقدم التاجر اقرار بموجب البيان الجمركي ويسدد الفارق حسب الاحتساب من القيمة بواقع ٨٠% ويقوم الجمرك بمعاينة عينة من الحمولة بنسبة ٢٠% كون تلك البضائع خاضعة للأثر المالي وفي حالة اكتشاف ما يخالف ذلك يتم التوسع في عملية التفتيش .

٣ بالنسبة للبضائع الواردة من غير [illegible] تخضع للمعاينة وبنسبة من ١٠% إلى ٢٠% وتخضع للتفتيش في حالة وجود المخالفات وإذا لم يوجد أي مخالفات تخرج فوراً دون أي [illegible]

٤ [illegible]

Email: info@customs.gov.ye
Tel: [illegible]
Fax: [illegible]
Yemen - Sana'a

www.customs.gov.ye



REPUBLIC OF YEMEN
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- شرط تعليم العينة بمطابقتها للعينة مع البيان الجمركي
- أي واردات لا تحمل بيانات جمركية تعامل وفقاً لأحكام التهريب وبموجب قانون الجمارك
- الالتزام بقرارات رئيس الوزراء لعام ٢٠١٦م المتعلقة بمكافحة التهريب.

وفقاً لذلك تم الاتفاق بين كل من الغرفة التجارية بأمانة العاصمة والغرفة التجارية بمحافظة صنعاء من جهة ومصلحة الجمارك من جهة أخرى وعلى الجمارك إبلاغ الأمن المركزي والمعنيين بوزارة الداخلية بضرورة منع الملاحقات في الشوارع وسط العاصمة.

- بالنسبة للواردات من منفذي الوديعة والشحن يتم تقديم إقرار من التاجر بأي فارق بالبضاعة ويسدد في جزء من الغرامة في حالة عدم وجود أي فارق بعد ذلك

وعلى الجميع الدفع بمكاتب حصرية في الوديعة والتواصل المستمر والتعاون عملاً بمبدأ الشراكة القائمة بين الجمارك والقطاع التجاري.

وأقفل المحضر في تمام الساعة العاشرة والنصف صباحاً من نفس اليوم السبت الموافق ٢٠١٧/٣/٤م وتم التوقيع بين الطرفين في جو من الود والإخاء.

والله الموفق ...

مقرر الاجتماع
فيصل عبدالعزيز العوامي

ممثلي الغرفة التجارية

الاسم	الصفة	التوقيع
محمد محمد شارب	عضو مجلس إدارة الغرفة بأمانة العاصمة	
محمد عبدالله الآنسي	مستشار الغرفة التجارية بالأمانة	

ممثلي مصلحة الجمارك

الاسم	الصفة	التوقيع
يحيى شرف الكبسي	الوكيل المساعد لشئون الفنية	
مجاهد الطهيف	الوكيل المساعد لشئون الضابطة	
عبدالله المهدي	مستشار المصلحة	
نور الدين البدح	مدير عام الضابطة	
علي حسين حميد	مدير عام جمرك مكتب صنعاء	
محمد حسين العيد	مدير عام الرقابة	
هشام رجح	مسئول غرفة العمليات	

يعتمد

نائب رئيس الغرفة التجارية الصناعية بأمانة العاصمة
أ/ محمد محمد صلاح

رئيس الغرفة التجارية الصناعية بمحافظة صنعاء
أ/ حسين محمد السوارى

القائم بأعمال رئيس مصلحة الجمارك وكيل المصلحة
أ/ يحيى محمد الأشكل

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Fax: +967 1 [illegible]
[illegible]

Web: customs.gov.ye

UN official translation from Arabic

Date: 9 April 2017

Minutes of the meeting on joint coordination between the customs authority and the chambers of commerce and industry of the capital governorate and Sana'a governorate

At 0900 hours on the morning of Saturday, 4 March 2017, a joint meeting was held between the leadership of the customs authority and the leaderships of the chambers of commerce and industry of the capital governorate and Sana'a governorate. The subject was joint coordination between, on the one hand, the customs authority, represented by Yahya Muhammad al-Osta, Chargé d'affaires a.i. and deputy chief of the customs authority, and, on the other hand, the chamber of commerce and industry of the capital governorate, represented by Muhammad Muhammad Salah, deputy head of the chamber of commerce and industry of that governorate, and the chamber of commerce and industry of Sana'a governorate, represented by Husayn Muhammad al-Suwari, Head of the Chamber.

The meeting was attended by the following:

The chamber of commerce

Muhammad Sharib -	member of the board of directors of the chamber
Muhammad al-Insi -	counsel to the chamber of commerce

The customs authority

Yahya Sharaf al-Kibsi -	assistant deputy for technical affairs
Mujahid al-Tahif -	assistant deputy for control affairs
Abdullah al-Mahdi -	counsel to the authority
Nur al-Din al-Badah -	director-general of control, Sana'a
Ali Husayn Hamid -	director-general of customs inspection
Muhammad Husayn al-Abid-	assistant director-general of inspection
Hisham Rajih-	operations room official

[*Handwritten:*] Authentic copy. Director of the Office of the Deputy (*Illegible signature*)]

After discussing various issues, the attendees agreed on the following:

1. Goods coming from Hudaydah and Salif would not be granted entry.

2. For incoming goods exempted under the existing Arab agreement and the Yemeni-Saudi agreement, the merchant shall provide a customs declaration and pay any discrepancy based on a calculation of 18 per cent. Customs will conduct a spot check of 20 per cent of any shipment to determine if they are subject to financial payment. If any are found to be in violation, the inspection will be widened.

3. Goods coming from Aden will be subject to a 10 to 20 per cent check, and will be subject to inspection if violations are found. If no violations are found, they will be released immediately without any payment other than 20,000 in additional charges.

4. Goods not of Arab origin meeting existing specifications include the following:

Olives – soap Cooking oils Metal and wood

Canned goods - sweets Frozen chicken Non-Arab cement

Energy drinks – raw materials for manufacturing, etc.

Such goods will be subject to checks to make sure they match the customs declaration precisely.

5. Any imports not accompanied by a customs declaration will be treated under provisions for smuggling and the Customs Act.

6. The Prime Minister's 2016 decision on combating smuggling will be complied with.

In accordance with the preceding, an agreement was reached between, on the one hand, the chamber of commerce of the capital governorate and the chamber of commerce of Sana'a governorate, and, on the other hand, the customs authority. The customs authority committed to informing central security and the Inspector-General of the Ministry of the Interior of the need to prohibit raids in the streets inside the capital.

7. For imports at the Wadi'ah and Shahn crossing points, the merchant will submit a declaration of any discrepancy in the goods. He will be assisted in paying part of the fine, provided no additional discrepancy is found.

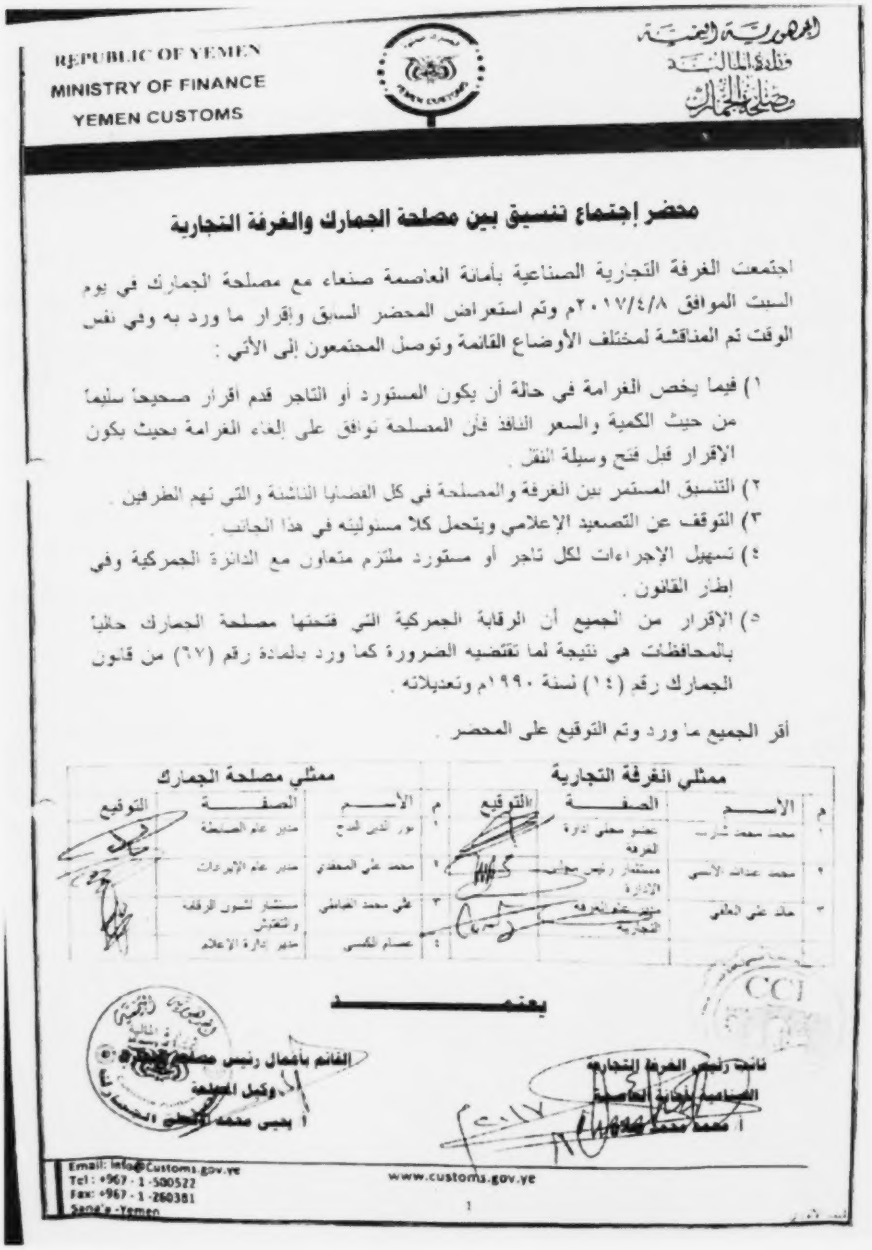
All parties committed to keep each other informed and to engage in cordial communication and cooperation under the principle of partnership between Customs and the private sector.

The meeting ended at 1030 hours on that day, Saturday 4 March 2017. The two sides signed in a spirit of friendship and brotherhood.

May God grant success.

(*Signed*) Faysal Abdulaziz **al-Awwami**

Appendix B to Annex 46: Coercion of the chamber of commerce and industry (meeting 8 April 2017)



REPUBLIC OF YEMEN
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YEMEN CUSTOMS

الجمهورية اليمنية
وزارة المالية
مصلحة الجمارك

محضر إجتماع تنسيق بين مصلحة الجمارك والغرفة التجارية

اجتمعت الغرفة التجارية الصناعية بأمانة العاصمة صنعاء مع مصلحة الجمارك في يوم السبت الموافق ٢٠١٧/٤/٨م وتم استعراض المحضر السابق وإقرار ما ورد به وفي نفس الوقت تم المناقشة لمختلف الأوضاع القائمة وتوصل المجتمعون إلى الأتي :

١) فيما يخص الغرامة في حالة أن يكون المستورد أو التاجر قدم اقرار صحيحاً سليماً من حيث الكمية والسعر النافذ فإن المصلحة توافق على إلغاء الغرامة بحيث يكون الإقرار قبل فتح وسيلة النقل .

٢) التنسيق المستمر بين الغرفة والمصلحة في كل القضايا الناشئة والتي تهم الطرفين .

٣) التوقف عن التصعيد الإعلامي ويتحمل كلا مسئوليته في هذا الجانب .

٤) تسهيل الإجراءات لكل تاجر أو مستورد ملتزم متعاون مع الدائرة الجمركية وفي إطار القانون .

٥) الإقرار من الجميع أن الرقابة الجمركية التي فتحتها مصلحة الجمارك حالياً بالمحافظات هي نتيجة لما تقتضيه الضرورة كما ورد بالمادة رقم (٦٧) من قانون الجمارك رقم (١٤) لسنة ١٩٩٠م وتعديلاته .

أقر الجميع ما ورد وتم التوقيع على المحضر .

ممثلي الغرفة التجارية				ممثلي مصلحة الجمارك			
م	الأسم	الصفة	التوقيع	م	الأسم	الصفة	التوقيع
١	محمد محمد شرف	عضو مجلس ادارة الغرفة		١	نور الدين الدحج	مدير عام المكافحة	
٢	محمد عبدالله الآنسي	مستشار رئيس مجلس الإدارة		٢	محمد علي المعقدي	مدير عام الإيرادات	
٣	حامد علي العلفي	مدير عام الغرفة التجارية		٣	علي محمد الضامني	مستشار لشئون الرقابة والتفتيش	
				٤	عصام الكبسي	مدير ادارة الإعلام	

يعتمد

نائب رئيس الغرفة التجارية
الصناعية بأمانة العاصمة
أ/ محمد محمد [illegible]

القائم بأعمال رئيس مصلحة الجمارك
وكيل المصلحة
أ/ يحيى محمد [illegible]

CCI

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Sana'a -Yemen

www.customs.gov.ye

1

UN official translation from Arabic

Minutes of the coordination meeting between the customs authority and the chamber of commerce

The chamber of commerce and industry at the capital governorate Sana'a met with the customs authority on Saturday, 8 April 2017. The previous minutes were reviewed and adopted. At the same time, various outstanding matters were discussed and those present agreed on the following:

1. With regard to the fee in cases where the importer or merchant has submitted an accurate declaration of the quantity and prevailing price, the authority agrees to wave the fee where the declaration is prior to the opening of the means of transport.

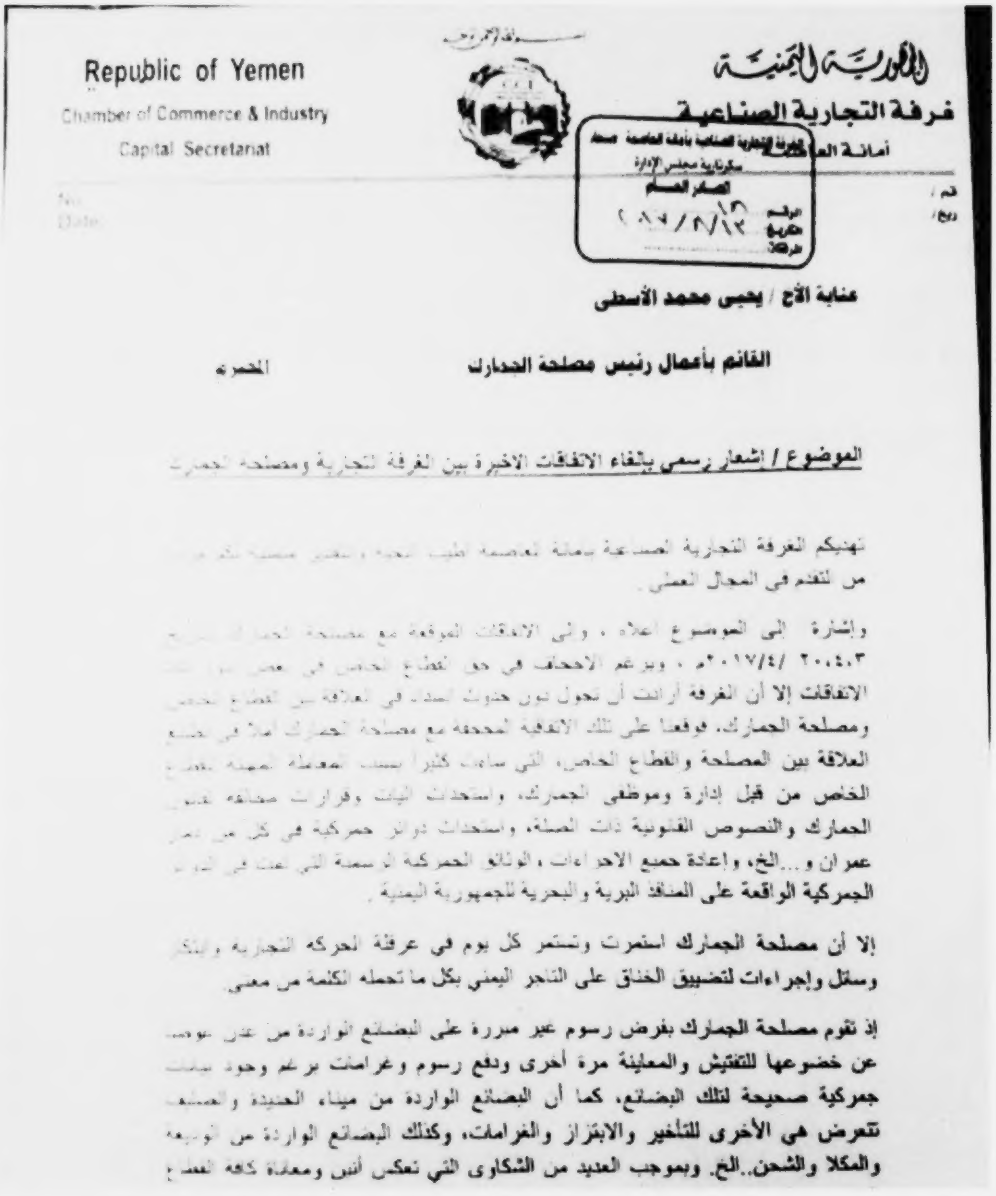
2. There would be ongoing coordination between the chamber and the authority on any emerging issues of concern to both parties.

3. Media escalation would cease, and both parties would take responsibility in that regard.

4. Procedures would be facilitated for any merchant or importer in compliance who cooperated with the Authority within the law.

5. All present declared that the customs supervision currently being inaugurated in the governorates was as needed in accordance with article 67 of the customs act (No. 14 of 1990, as amended).

Appendix C to Annex 46: Letter of 13 August 2017 from the chambers of commerce and industry to the customs authority cancelling the agreement of 4 March 2017



بسم الله الرحمن الرحيم

الجمهورية اليمنية
غرفة التجارية الصناعية
أمانة العاصمة

Republic of Yemen
Chamber of Commerce & Industry
Capital Secretariat

رقم /
تاريخ /

No.
Date:

الغرفة التجارية الصناعية بأمانة العاصمة صنعاء
سكرتارية مجلس الإدارة
الصادر العام
الرقم ١٦
التاريخ ٢٠١٧/٨/١٢
المرفقات

عناية الأخ / يحيى محمد الأسطى

القائم بأعمال رئيس مصلحة الجمارك المحترم

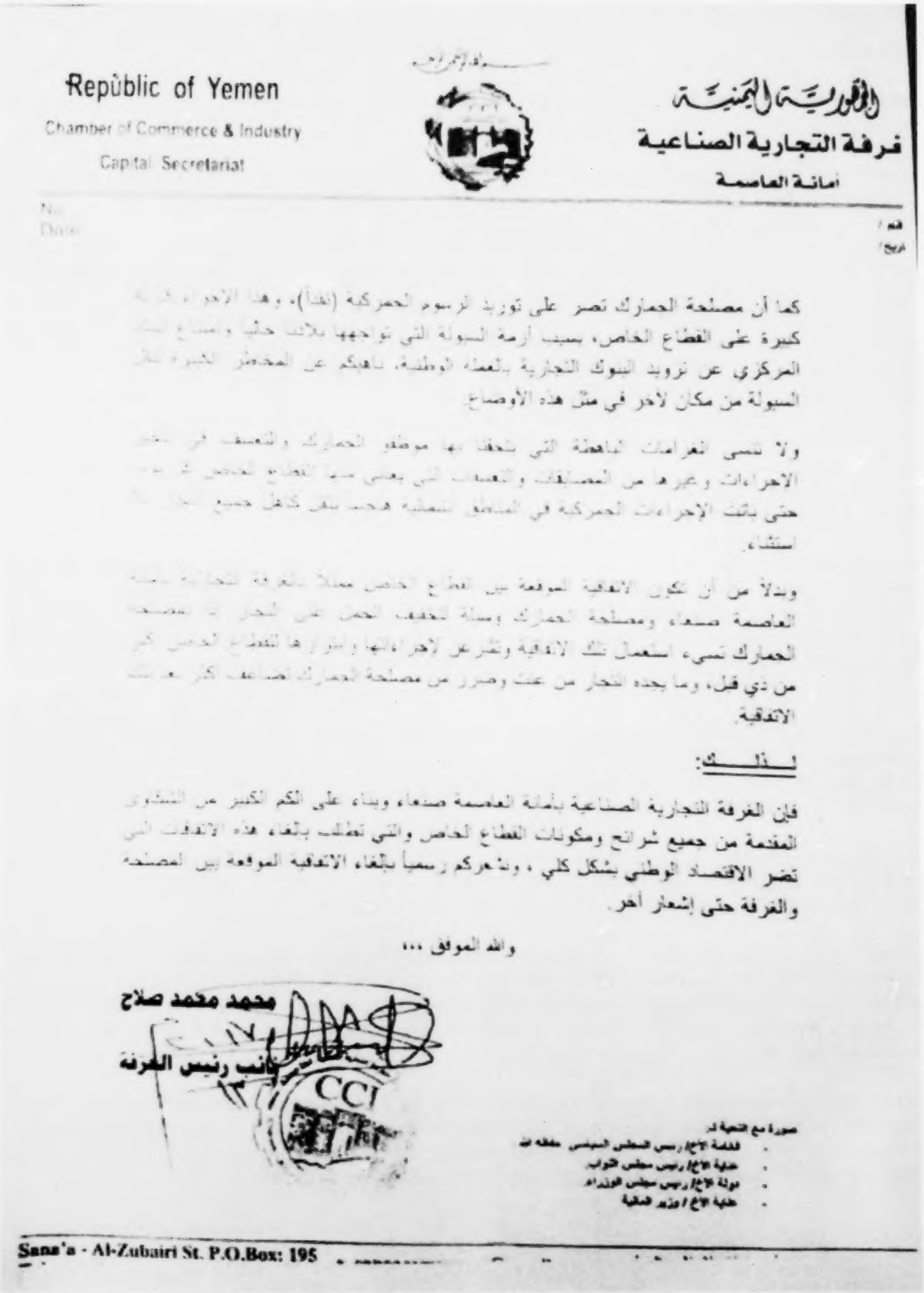
الموضوع / إشعار رسمي بإلغاء الاتفاقات الاخيرة بين الغرفة التجارية ومصلحة الجمارك

تهنيكم الغرفة التجارية الصناعية بأمانة العاصمة أطيب التحية والتقدير متمنية لكم [illegible] من التقدم في المجال العملي .

وإشارة إلى الموضوع أعلاه ، وإلى الاتفاقات الموقعة مع مصلحة الجمارك بتاريخ ٢٠،٤٠٣ /٢٠١٧/٤م ، وبرغم الاجحاف في حق القطاع الخاص في بعض بنود تلك الاتفاقات إلا أن الغرفة ارتأت أن تحول دون حدوث انسداد في العلاقة بين القطاع الخاص ومصلحة الجمارك، فوقعنا على تلك الاتفاقية المجحفة مع مصلحة الجمارك أملا في تحسين العلاقة بين المصلحة والقطاع الخاص، التي ساءت كثيرا بسبب المعاملة المهينة للقطاع الخاص من قبل إدارة وموظفي الجمارك، واستحداث آليات وقرارات مخالفة لقانون الجمارك والنصوص القانونية ذات الصلة، واستحداث دوائر جمركية في كل من ذمار عمران و ...الخ، وإعادة جميع الاجراءات ، والوثائق الجمركية الرسمية التي تمت في الدوائر الجمركية الواقعة على المنافذ البرية والبحرية للجمهورية اليمنية .

إلا أن مصلحة الجمارك استمرت وتستمر كل يوم في عرقلة الحركة التجارية وابتكار وسائل وإجراءات لتضييق الخناق على التاجر اليمني بكل ما تحمله الكلمة من معنى.

إذ تقوم مصلحة الجمارك بفرض رسوم غير مبررة على البضائع الواردة من عدن عوضا عن خضوعها للتفتيش والمعاينة مرة أخرى ودفع رسوم وغرامات برغم وجود بيانات جمركية صحيحة لتلك البضائع، كما أن البضائع الواردة من ميناء الحديدة والصليف تتعرض هي الأخرى للتأخير والابتزاز والغرامات، وكذلك البضائع الواردة من الوديعة والمكلا والشحن..الخ. وبموجب العديد من الشكاوى التي تعكس أنين ومعاناة كافة القطاع



بسم الله الرحمن الرحيم

Republic of Yemen
Chamber of Commerce & Industry
Capital Secretariat

الجمهورية اليمنية
غرفة التجارية الصناعية
أمانة العاصمة

No.
Date

رقم /
التاريخ /

كما أن مصلحة الجمارك تصر على توريد الرسوم الجمركية (نقداً)، وهذا الإجراء [illegible] كبيرة على القطاع الخاص، بسبب أزمة السيولة التي تواجهها بلادنا حالياً وامتناع البنك المركزي عن تزويد البنوك التجارية بالعملة الوطنية، ناهيكم عن المخاطر الكبيرة لنقل السيولة من مكان لآخر في مثل هذه الأوضاع.

ولا ننسى الغرامات الباهظة التي يلحقها بنا موظفو الجمارك والتعسف في بعض الإجراءات وغيرها من المضايقات والتعقيدات التي يعاني منها القطاع الخاص [illegible] حتى باتت الإجراءات الجمركية في المناطق الشمالية هاجساً يثقل كاهل جميع التجار [illegible] استثناء.

وبدلاً من أن تكون الاتفاقية الموقعة بين القطاع الخاص ممثلاً بالغرفة التجارية الصناعية بأمانة العاصمة صنعاء ومصلحة الجمارك وسيلة لتخفيف العبء على التجار [illegible] مصلحة الجمارك تسيء استعمال تلك الاتفاقية وتتذرع بإجراءاتها وتفرضها على القطاع الخاص أكثر من ذي قبل، وما يجده التجار من عنت وضرر من مصلحة الجمارك تضاعف أكثر بعد تلك الاتفاقية.

لــــذلــــك:

فإن الغرفة التجارية الصناعية بأمانة العاصمة صنعاء وبناء على الكم الكبير من الشكاوى المقدمة من جميع شرائح ومكونات القطاع الخاص والتي تطالب بإلغاء هذه الاتفاقية التي تضر الاقتصاد الوطني بشكل كلي ، ونشعركم رسمياً بإلغاء الاتفاقية الموقعة بين المصلحة والغرفة حتى إشعار آخر.

والله الموفق ...

محمد محمد صلاح
نائب رئيس الغرفة

CCI

صورة مع التحية لـ:
- فخامة الأخ/ رئيس المجلس السياسي حفظه الله
- معالي الأخ/ رئيس مجلس النواب
- دولة الأخ/ رئيس مجلس الوزراء
- معالي الأخ/ وزير المالية

Sana'a - Al-Zubairi St. P.O.Box: 195

UN official translation from Arabic

Date: 12 August 2017

Subject: Official notice of cancellation of recent agreements between the chamber of commerce and the customs authority

The chamber of commerce and industry of the capital governorate presents its compliments and wishes you continued progress in your work.

I write in reference to the above subject and agreements that we signed with the customs authority on 3, 4 and 20 April 2017. Even though some of their provisions were prejudicial to the private sector, the chamber was trying to prevent any sources of friction in relations between the private sector and the customs authority, and we signed those unfair agreements with the customs authority in the hope of normalizing relations between the Authority and the private sector. Those relations had deteriorated considerably owing to abusive treatment of the private sector by the customs administration and officials, the introduction of mechanisms and decisions contrary to the customs act and other relevant legal provisions, the creation of customs departments in Dhamar, Amran, and so on. We had hoped for the restoration of all the official customs procedures and documentation used in customs departments at land and sea border points in the Republic of Yemen.

Unfortunately, the customs authority has continued to persist daily in impeding commercial activity and inventing new procedures that strangle Yemeni merchants, in every sense of the word.

The customs authority imposes unjustified duties on goods coming from Aden. It subjects them to additional inspections, checks, duties and fees even when those goods have valid customs declarations. Goods coming from the ports of Hudaydah and Salif are also subject to delays, theft and fees, as are goods coming from Wadi'ah, Mukalla and Shahn. There have been numerous complaints coming from all over of the commercial and private sectors. Merchants, importers, owners, investors and businessmen are all complaining about arbitrary customs practices and procedures, and are demanding the cancellation of these unfair agreements.

The Customs Authority is also insisting on the payment of customs duties in cash. That is a disaster for the private sector, given the liquidity crisis currently faced by our country and the refusal by the Central Bank to supply commercial banks with national currency, not mention the increased risk of liquid assets being diverted from one location to another under such conditions.

That is not even to mention the exorbitant fees being charged by customs officials and the arbitrary delays, procedures and other inconveniences suffered by the private sector every day. In the northern regions, customs procedures remain a burden on the shoulders of all merchants without exception.

The agreement signed between the private sector – represented by the chamber of commerce and industry in the capital governorate Sana'a – and the customs authority was supposed to lighten the burden on merchants. Instead, the customs authority is abusing that agreement, misapplying its procedures, and fleecing the private sector more than ever before. Merchants have found that the hardship and damage inflicted on them by the customs authority has only been compounded by the agreement.

Therefore, given the enormous volume of complaints submitted by all parts of the private sector demanding the cancellation of these agreements, and the damage these agreements are doing to the overall national economy, the chamber of commerce and industry at the capital governorate Sana'a hereby notifies you officially of the cancellation of the agreements signed between the authority and the chamber until further notice.

(*Signed*) Muhammad Muhammad **Salah**

Deputy Head of the Chamber

Annex 47: Houthi revenue from black market sales of oil products

Table 47.1
Estimates of oil distribution and sale costs[1]

Item	*YER (Market[2] Rate)*	*YER (CBY[3] Rate)*	*US$[4]*	*Remarks*
1. Total cost with delivery in Sana'a (Diesel per L)	184			
2. Total cost with delivery in Sana'a (Petrol per L)	196			
a. Delivery cost to Red Sea ports (diesel/L)	*135*	*93*	*0.37*	*US$446/Ton (1,200L)*
b. Delivery cost to Red Sea ports (petrol/L)	*140*	*96*	*0.38*	*US$520/Ton (1,350L)*
c. Transport cost to Sana'a	*6*	*5*	*0.02*	*Private transport*
d. YPC Fees (Diesel per L)	*43*	*29.5/ 34.2*	*0.12/ 0.14*	*Collected by Houthis*
e. YPC Fees (Petrol per L)	*50*	*29.5/ 34.2*	*0.12/ 0.14*	*Collected by Houthis*
3. Official sale price (Sana'a)	*215*	*147*	*0.59*	
3a. Black Market price (Sana'a) (Diesel per L)	240[5]	164 / 171	0.66 / 0.68	Houthi affiliate
3b. Black Market price (Sana'a) (Petrol per L)	250[6]	164 / 171	0.66 / 0.68	Houthi affiliate
4. Houthi Margin/L (Sales) (Diesel/Petrol)	56 / 54			On Sales
5. Total Houthi Margin/L (Diesel/Petrol)	99 / 104			Including YPC fee

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[1] Confidential sources in the oil and gas industry in Yemen.

[2] At unofficial exchange rate of USD$ 1 = YER 365

[3] CBY rate is YER 250 to US$1.00.

[4] At CBY rate

[5] Current price per liter for diesel and petrol. The price reached YER 280 throughout 2016 and early 2017. See statement of the acting chief of customs http://customs.gov.ye/news_show_ar.php?id=130

[6] Ibid

Table 47.2

Estimates of potential oil revenue for the Houthis (5 May 2016 – 30 July 2017)[7].

			Houthi margins	
Item	*Delivered (MT)*	*Delivered (L)*	*YER (Market)[8]*	*US$ (CBY Rate)[9]*
Total fuel deliveries to Red Sea ports (MT)	2,031,609			
Total if all Petrol (L)		2,742,672,150	318,462,300,000	1,273,849,200
Total if all Diesel (L)		2,437,930,800	269,468,100,000	1,077,872,400

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[7] The Panel could not estimate the costs after July 2017 as: 1) exchange rate stopped to be fixed to YER 250 for 1 USD$, and 2) cost of fuel increased continuously since July and reached 25% in December 2017 compared to July 2017. http://www.bunkerindex.com/prices/bixfree_1709.php?priceindex_id=4.

[8] At unofficial exchange rate of USD$ 1 = YER 365. The fuel is sold on the black market so this rate applies.

[9] Official exchange rate used in this case as that is the value the Houthis would acquire if exchanged on international market.

CONFIDENTIAL ANNEX NOT FOR PUBLIC DISSEMINATION

Annex 48: List of consignees for fuel import in Red Sea ports

Table X.2

Number of tankers for consignees for fuel import in Red Sea ports before and after 1 March 2017

Ser	*Consignees*	*Number of tankers before*	*Number of tankers after*
1	Abha Global Trading	2	
2	Aggreko Yemen for Agricultural Products	2	
3	az-Zahraa Establishment for Trading and Agencies	2	
4	Bin Dowal for Iron Steel Co. Mukalla, Yemen	2	
5	Dynasty Trading Yemen	2	
6	Mok Corporation for Trading and Oil Services	2	
7	Oil Premier Oil Services and Trading	2	
8	Matrixoil Import, Yemen	3	
9	Middle East Shipping	3	
10	Ahmed Mohammed Saleh Albaidhani for Trading	4	
11	Nama'a Power Oil Services and Importing	4	
12	Elaf for Import Oil Derivatives	5	
13	Albarakah Republic Trading Company	1	1
14	Golden Oil FZC, Sharjah, UAE	1	1
15	Yemen Company for Industrial Investment	1	2
16	Balad al Khairat for Import Petroleum	1	7
17	Yemen Petroleum Company	3	1
18	Deema Yemen for Trading and Agencies	3	9
19	Climax for Import	4	2
20	Sam Oil Company for Trade and Oil Services	7	20
21	Tamco Petroleum	7	14
22	Atico Trading and Industry	10	11
23	Yahya Oseily Export Company Limited	11	17
24	Begad International for Import	13	
25	al Attas for Trade and Marketing		4
26	al Hutheily General Trading		3
27	Alchemist Energy Trading DMCC		3
28	al Emteaz International for Importing		3
29	Falcon Shipping and Marine Services		3
30	Waqood for Investment		3
31	al Zahra Trading and Agencies Establishment		2
32	Hamady for Trade and Cold Store		2
33	MOPC for Oil and Gas Services		2
34	Vamoil International		2

Annex 49: Risks of looting and trafficking of antiquities and cultural objects

Figure 49.1
Example of artefacts seized in Geneva

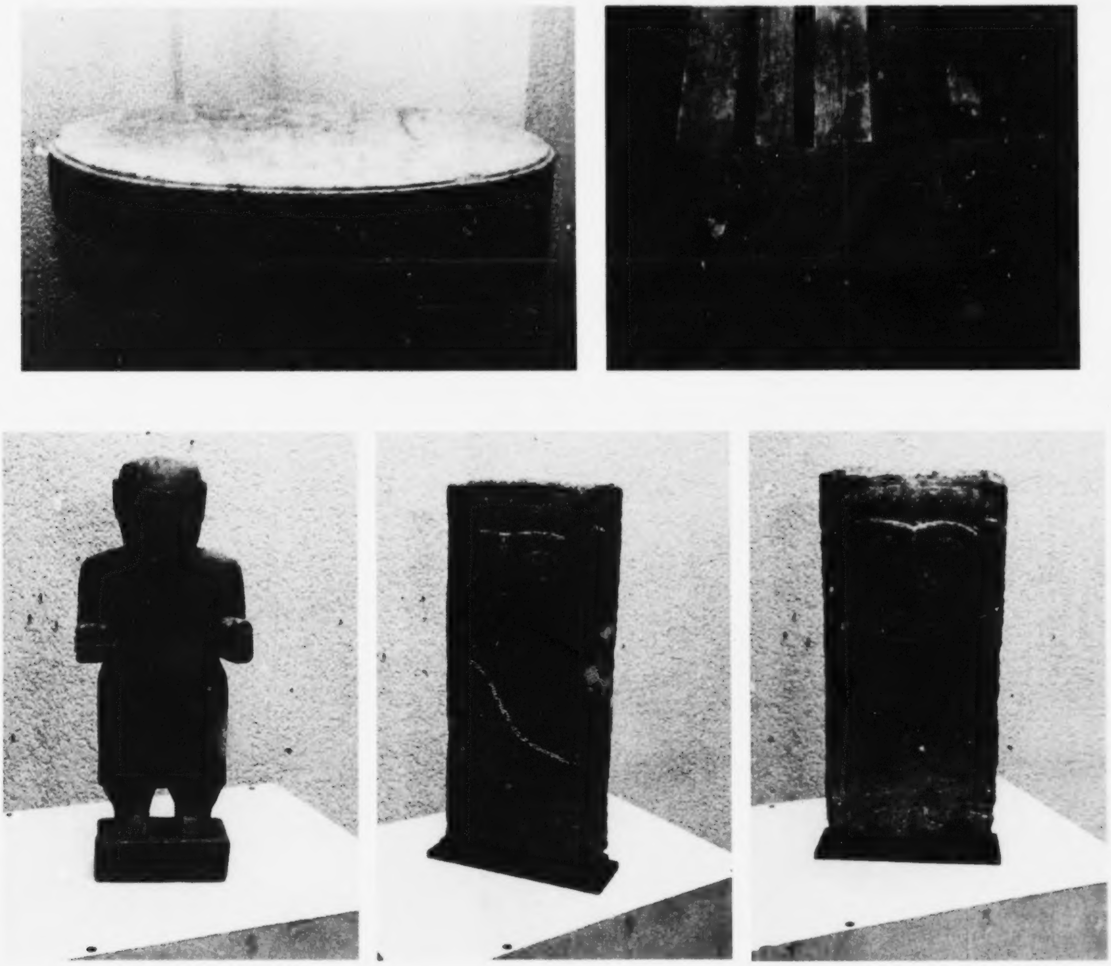
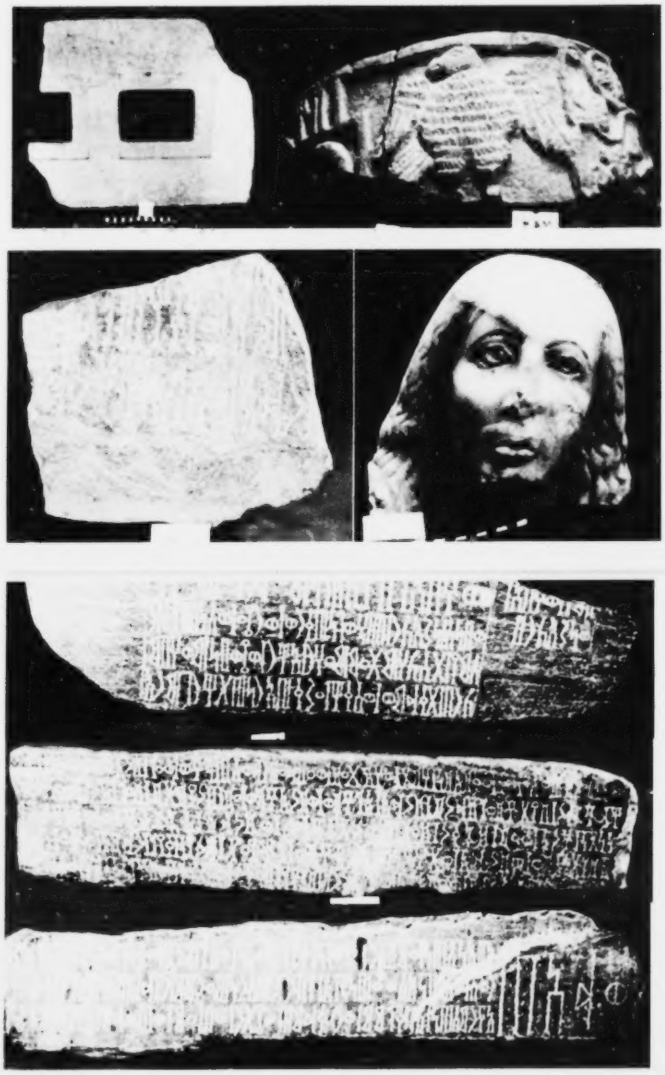


Figure 49.2
Artefacts observed in Lahij[1]



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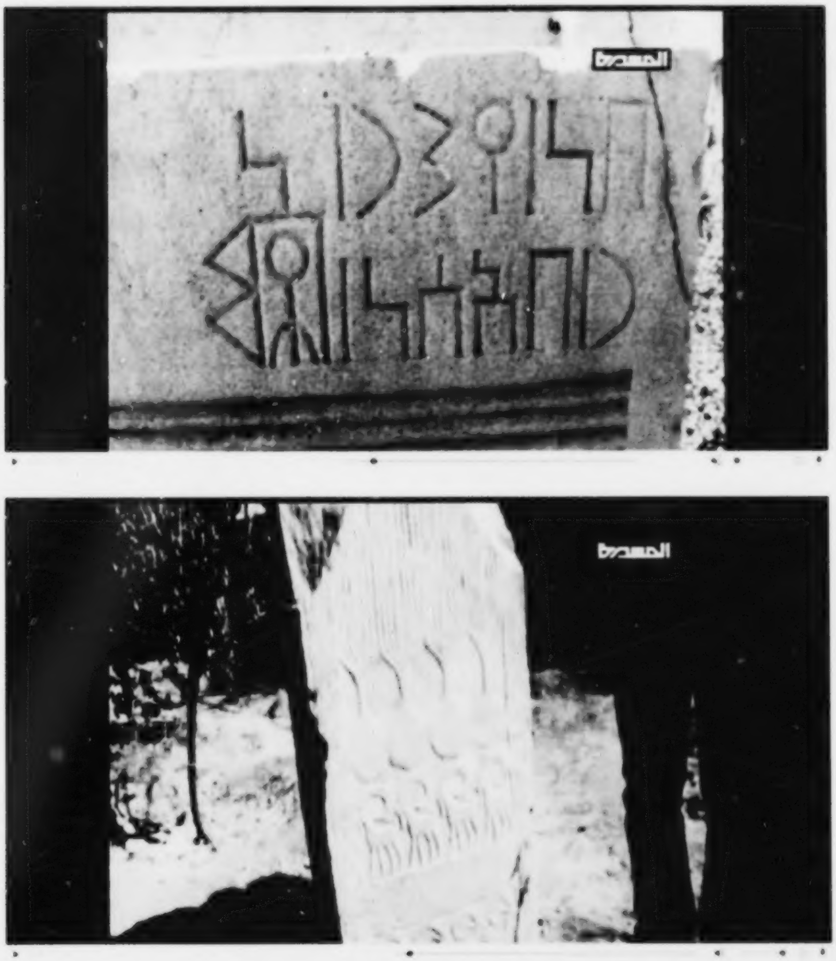
[1] Sources: Yafa News, August 2017, http://www.yafa-news.net/archives/263955; Interview with the director of archaeology at al-Dad district, Lahij (November 2017).

Figure 49.3
Artefacts observed in in Tebbat Tawfiq Saleh Sourg of Sana'a[2]



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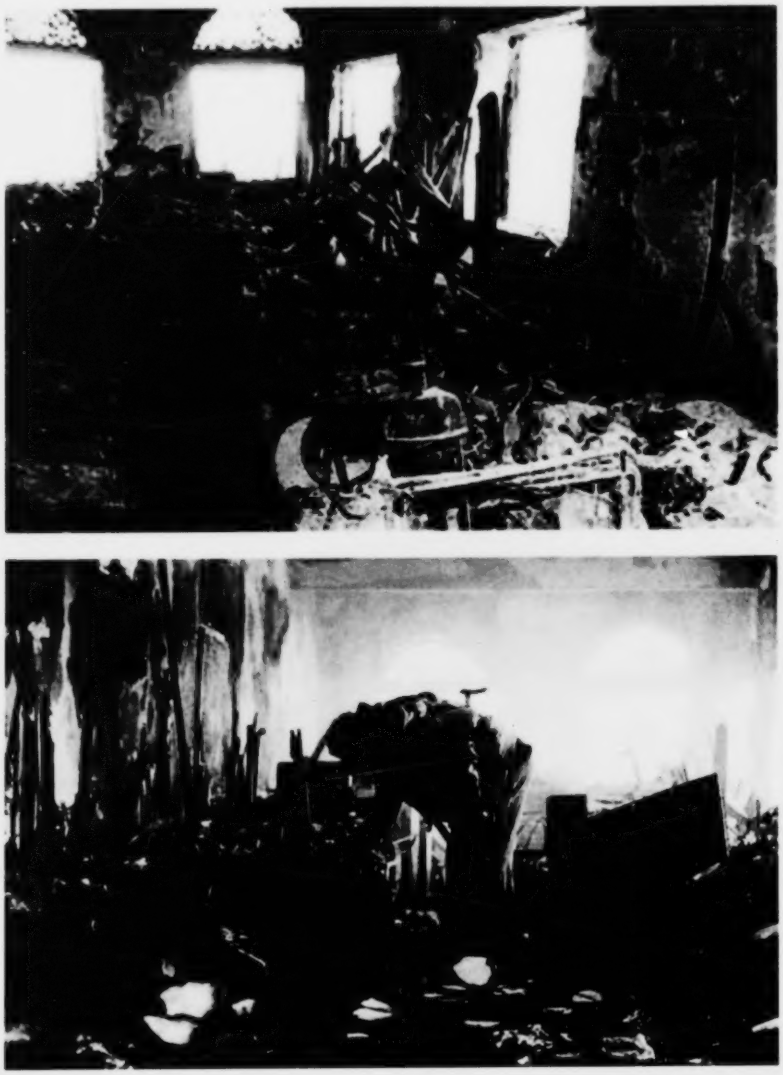
[2] http://almasirah.net/gallery/preview.php?file_id=104818 Wrifxroebms whatsapp

Figure 49.4
Artefacts observed in Ta'izz under the control of resistance forces (Museum al-Ardi in Ta'izz)



A resistance fighter inspects the damage to the Ta'izz National Museum, Yemen.
Photo: AHMAD AL-BASHA/AFP/Getty Images.[3]

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[3] https://news.artnet.com/art-world/taiz-national-museum-destroyed-419792

Annex 50: Banks and finance institutions in Yemen

Table 50.1
Yemeni banks and financial institutions

Ser	Bank	Capital YER Billion	Branch(s)	Government stake %	Other stake %	Founded	Remarks
1	Central Bank of Yemen (CBY)	6.0	21	100		1971	
2	Yemen Bank for Reconstruction and Development	15.0	44	51	P[1]49	1962	Shareholder in Kamaran (KIIC)
3	National Bank of Yemen	10.0	27	100		1969	Known as Al Ahli Bank, owned by the Government, the only bank with head office in Aden
4	Arab Bank	6.0	9		F100%	1972	
5	United Bank Limited	6.0	3		F100%	1972	
6	Housing Bank	0.2	1	97%	P3%	1977	
7	International Bank of Yemen	15.0	23		P85%, F15%	1979	Associated with Shahir Abdulhaq Bishr
8	Yemen Kuwait Bank for Trade and Investment	6.0	12		P100%	1979	Associated with Alsonidar family
9	Cooperative and Agricultural Credit Bank	14.9	51	100		1982	Owns branches in Djibouti and in Bosaso, Puntland, Somalia
10	Al-Rafidayn Bank	6.5	1		F100%	1982	
11	Yemen Commercial Bank	7.9	14	10	P90%	1993	Associated with al-Rowayshan family
12	Islamic Bank of Yemen for Finance and Investment	4.4	6	4.5	P73.5%, F22%	1995	Associated with Al-Aswadi family
13	Tadhamon International Islamic Bank	20.0	21		P96.7%, F3.3%	1996	Associated with Hayel Saeed family

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[1] P = Private Investor stake and F = Foreign Investor state

Ser	*Bank*	*Capital YER Billion*	*Branch(s)*	*Government stake %*	*Other stake %*	*Founded*	*Remarks*
14	Saba Islamic Bank	16.0	16		P85%, F15%	1997	Associated with Al Ahmar family and Dubai Islamic Bank
15	Yemen Gulf Bank	1.3	2	1%	P77%, F22%	2001	
16	Shamil Bank of Yemen and Bahrain	6.0	9		P57%, F43%	2002	
17	Qatar National Bank (QNB)	6.0	1		F100%	2007	
18	Al-Amal Microfinance Bank	3.8	18	45%	P20%, F35%	2008	
19	Al-Kuraimi Islamic Microfinance Bank	10.0	23		P100%	2010	Associated with the Al-Kuraimi family

Table 50.1

Money exchangers operating in Yemen

Ser	*Name*	*Arabic Name*	*Used by traders*	*Presence in Sana'a*	*Presence in Ta'izz*
1	Abd al-Aawi al-Amri Exchange	عبدالقوي العامري للصرافة			Yes
2	Abdellah Meftah Exchange	عبدالله مفتاح للصرافة		Yes	
3	Abdullah Al Amri Exchange	عبد الله العامري للصرافة	Yes		
4	Abu Adel Exchange	ابو عادل للصرافة		Yes	
5	Abu Hisham Exchange	ابو هشام للصرافة		Yes	
6	Abu Meftah Exchange	ابو مفتاح للصرافة	Yes		
7	Abu Murad Exchange	ابو مراد للصرافة		Yes	
8	Abu Taha Athur Exchange	ابو طه الثور للصرافة		Yes	
9	Ahmed al Amri Exchange	احمد العامري للصرافة		Yes	Yes
10	Ahmed Al Amri Exchange	احمد العامري للصرافة	Yes		
11	Al Akwa'a Exchange	الاكوع للصرافة	Yes		
12	Al Arabiya Exchange	العربية للصرافة		Yes	
13	Al Atiri Exchange	العطيري للصرافة		Yes	
14	Al Aydarus Exchange	العيدروس للصرافة	Yes	Yes	
15	Al Azzi Exchange	العزي للصرافة			Yes
16	Al Baidani Exchange	البيضاني للصرافة	Yes		
17	Al Barq Exchange	البرق للصرافة	Yes	Yes	
18	Al Busairi Exchange	البصيري للصرافة	Yes		
19	Al Faqih Exchange	الفقية للصرافة			Yes
20	Al Gharassi Exchange	الغراسي للصرافة	Yes		
21	Al Hajri Exchange	الحجري للصرافة	Yes	Yes	
22	Al Hatha'a Exchange	الحظاء للصرافة		Yes	
23	Al Hattar Exchange	الهطار للصرافة		Yes	
24	Al Hazmi Exchange	الحزمي للصرافة	Yes		
25	Al Jazeera Exchange	الجزيرة اخوان	Yes	Yes	Yes
26	Al Kabus Exchange	الكبوس للصرافة		Yes	

Ser	Name	Arabic Name	Used by traders	Presence in Sana'a	Presence in Ta'izz
27	Al Khaleej Exchange	الخليج للصرافة		Yes	
28	Al Khulaidi Exchange	الخليدي للصرافة			Yes
29	Al Mahraqi Exchange	المحرقي للصرافة	Yes		
30	Al Majrabi Exchange	المجربي للصرافة	Yes		
31	Al Marah Exchange	المرح للصرافة		Yes	
32	Al Marry Exchange	المري للصرافة	Yes		
33	Al Mesbahi Exchange	المصبحي للصرافة		Yes	
34	Al Mihdar Exchange	المحضار للصرافة	Yes		
35	Al Muhajeer Exchange	المهاجر للصرافة	Yes		
36	Al Muttahida Exchange	المتحدة للصرافة	Yes		
37	Al Omgui Exchange	العمقي للصرافة	Yes		
38	Al Qasmi Exchange	القاسمي للصرافة		Yes	
39	Al Qutaibi Exchange	القطيبي للصرافة	Yes		
40	Al Yabani Exchange	اليباني للصرافة	Yes		
41	Al Yemeni Exchange	اليمني للصرافة	Yes		
42	Alamari Exchange	مؤسسة العمري للصرافة		Yes	
43	Amran Exchange	عمران للصرافة	Yes		
44	Annajm Exchange	النجم للصرافة	Yes		
45	Annasser Exchange	الناصر للصرافة	Yes		Yes
46	Annuman Exchange	النعمان للصرافة	Yes	Yes	
47	Ashahdi Exchange	الشاهدي للصرافة	Yes		
48	Assaeed Exchange	السعيد للصرافة	Yes		
49	Assaifi Exchange	الصيفي للصرافة	Yes		
50	Assuraimi Exchange	الصريمي للصرافة	Yes		
51	Athur Exchange	الثور للصرافة	Yes		
52	Attadamun Exchange	التضامن للصرافة	Yes		
53	Azzubairi Exchange	الزبيري للصرافة	Yes		
54	Ba Wazeer Exchange	باوزير للصرافة	Yes		

Ser	Name	Arabic Name	Used by traders	Presence in Sana'a	Presence in Ta'izz
55	Bakhash Exchange	بخاش للصرافة	Yes		
56	Behyan Exchange	بهيان للصرافة	Yes		
57	Ben Amer Exchange	بن عامر للصرافة	Yes		
58	Dahhan Exchange	دحان مفتاح للصرافة		Yes	
59	Exchange	الحظاء للصرافة	Yes		
60	Hamood Ahmed Yuseef Exchange	حمود احمد يوسف للصرافة			Yes
61	Heza'a Meftah Exchange	هزاع مفتاح للصرافة		Yes	
62	Mahfuth al-M'abari Exchange	محفوظ المعبري للصرافة			Yes
63	Masood Exchange	مسعود للصرافة	Yes		
64	Mathna Exchange	مثنى للصرافة	Yes		
65	Muhamed Abdulmalik Athur Exchange	محمد عبدالملك اثور للصرافة		Yes	
66	Muhsein Shrhan Exchange	محسن شرهان للصرافة		Yes	
67	Munawar Lotf Exchange	منور لطف للصرافة			Yes
68	Naguib Radif Exchange	نجيب رضيف للصرافة			Yes
69	Nahshal Exchange	نهشل للصرافة	Yes		
70	Sabra Exchange	صبرة للصرافة	Yes	Yes	
71	Saleh Al Arwi Exchange	صالح العروي للصرافة		Yes	
72	Shar'ab Arruna Ben Lotf Exchange	شرعب الرونة بن لطف للصرافة			Yes
73	Suwaid and Sons Exchange	سويد واولاده للصرافة		Yes	
74	Suwaid Exchange	سويد للصرافة	Yes		

Annex 51: Money supply M0[1] of YER (1999 to present)

Table 51.1
Value (YER Million) by banknote denomination

	Value (YER Million) for each banknote denomination										
Year	*1*	*5*	*10*	*20*	*50*	*100*	*200*	*250*	*500*	*1000*	*Coins*
1999	123	247	649	1,556	12,842	48,589	40,819		30,469	33,770	19
2000	123	289	679	1,156	11,492	50,540	43,235		31,439.0	62,469.0	19
2001	123	327	807	1,083	9,840	49,760	42,287		39,113	72,236.8	19
2002	122	376	829	1,047	9,155	53,354	40,919		58,802	79,151	19
2003	124	390	920	994	9,727	53,271	41,618		75,255	91,954	19
2004	124	425	1,081	902	10,134	49,159	39,990		87,782	113,181	19
2005	127	457	1,165	908	6,404	31,083	36,793		100,209	160,359	19
2006	127	474	1,250	965	4,570	21,591	32,897		102,518	254,934	19
2007	127	483	1,315	1,089	4,184	17,939	27,205		111,758	279,873	19
2008	128	532	1,399	1,227	4,289	15,415	21,961		129,336	316,196	19
2009	128	551	1,461	1,325	4,528	14,810	10,087	10,563	158,597	349,650	19
2010	128	557	1,536	1,417	4,085	13,079	5,125	16,650	141,553	387,249	19
2011	128	559	1,613	1,502	3,357	12,208	3,967	19,787	151,882	605,263	19
2012	128	584	1,845	1,775	2,892	14,556	3,124	11,235	109,260	687,378	19
2013	128	614	1,934	2,110	2,755	15,056	2,724	9,000	79,022	708,532	19
2014	129	675	1,936	2,412	2,409	14,373	2,397	10,833	73,578	746,123	19
2017									600,000	400,000	

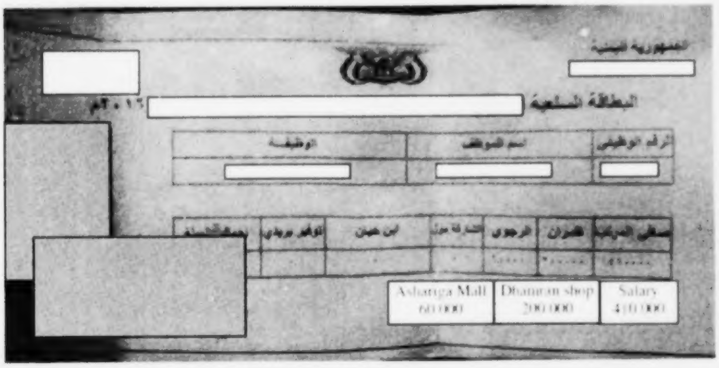
---

[1] M0 is a measure of the money supply, which combines any liquid or cash assets held within a central bank and the amount of physical currency circulating in the economy

Annex 52: Vouchers issued by Abu Nabil Al Qaramani

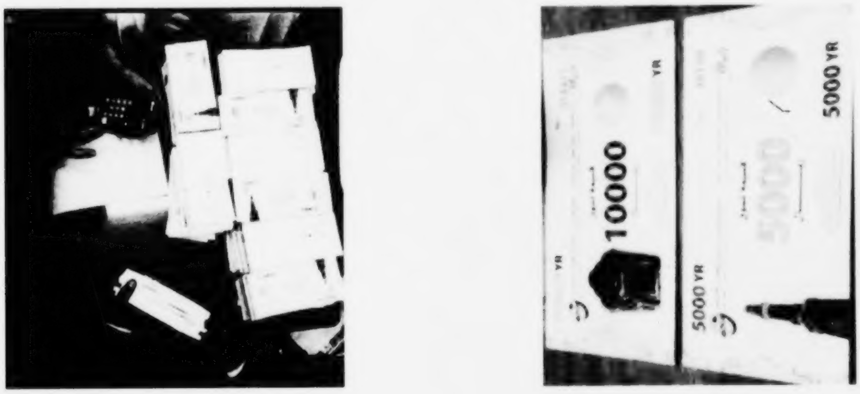
1. Voucher card indicating that an employee with a salary YER 410,000 was to receive vouchers worth YER 200,000 and YER 60,000 to be used respectively in Dhamran market and Ashariga market

Figure 52.1
Al Qaramani voucher ID card to be used with voucher[1]


الجمهورية اليمنية
البطاقة السلعية
الرقم الوظيفي
اسم الموظف
الوظيفة
Ashariga Mall 60,000
Dhamran shop 200,000
Salary 410,000

2. Allocation of YER 5,000 and YER 10,000 vouchers to one administrative service

Figure 52.2
Al Qaramani vouchers (YER 20,000 and YER 30,000)


10000
YR
5000 YR
5000

---

[1] Source: Employee with identity masked.

Annex 53: Money laundering of new (counterfeit) YER 5,000 promissory notes[1]

Figure 53.1
Seized counterfeit YER 5,000 denomination promissory notes and blanks passport

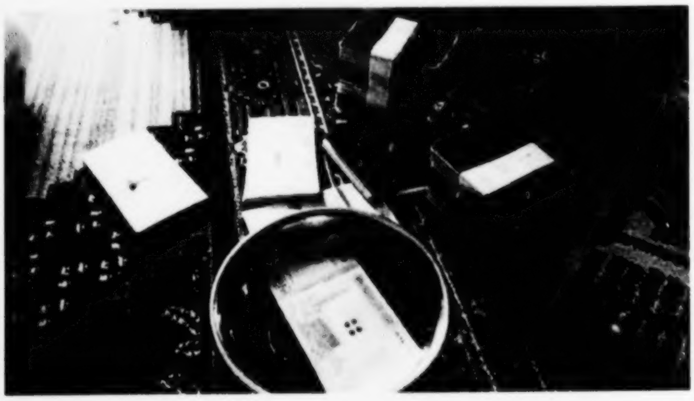
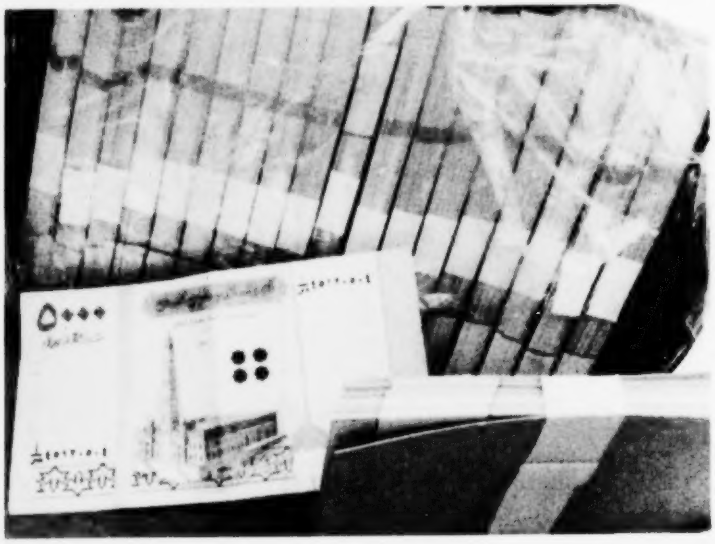


Figure 53.2
Packaged counterfeit YER 5,000 denomination promissory notes



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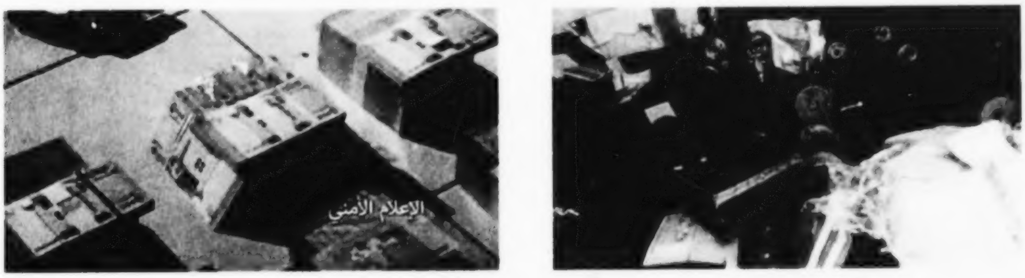
[1] Images from confidential source and Jawf press

Figures 53.3 and 54.4

Subsequent seizure en-route in Houthi controlled areas


الإعلام الأمني

53.3: Seizure by Houthis in Ibb

53.4 Seizure by legitimate Government in Ma'rib

Figure 53.5

Detailed image of counterfeit YER 5,000 denomination promissory note received by the Panel used in forensic analysis

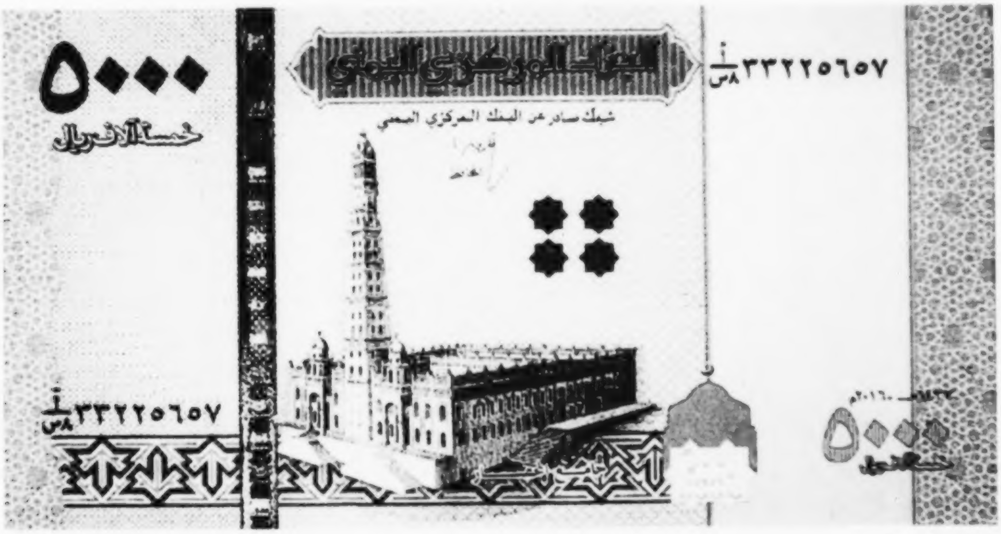
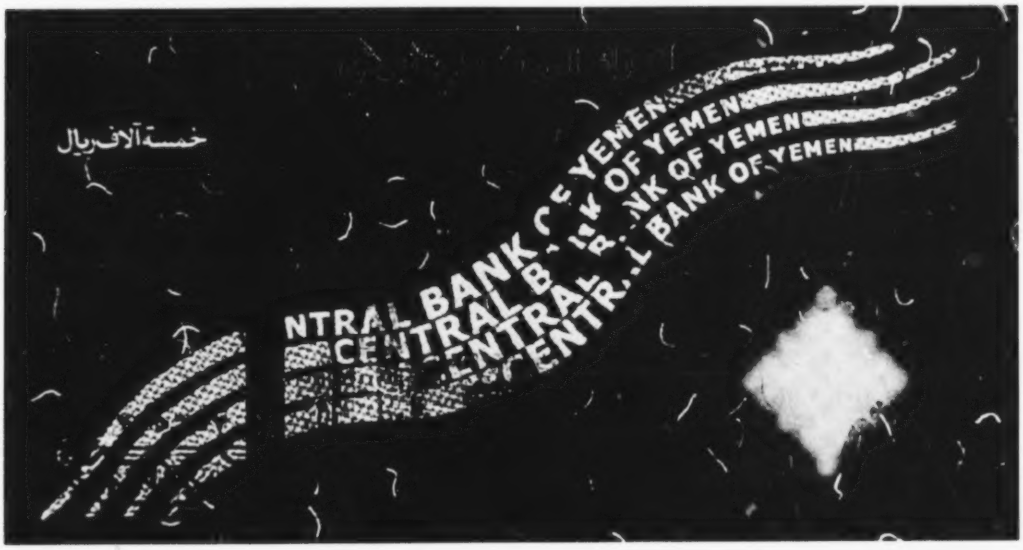

٥٠٠٠
خمسة آلاف ريال
البنك المركزي اليمني
شيك صادر عن البنك المركزي اليمني
٣٣٢٢٥٦٥٧

Figure 53.6

Detailed image of counterfeit YER 5,000 promissory note received by the Panel used in forensic analysis



I. Technical analysis

1. There is a noticeable absence of a watermark, a security thread in the substrate or security features which are present in a majority of banknotes produced on paper substrate, including 500 YER and 1,000 YER notes.

2. There is a noticeable absence of intaglio print, a printing technique typically utilised on banknotes and passports.

3. The front of the note is protected by: 1) yellow green fluorescent ink (it contains fluorescent substance in addition to visible colour pigments - Arabic script in yellow green); and 2) the fluorescent overprint (image which is invisible under white light and it fluoresces under UV light – wavy decorative and textual elements in Latin script in yellow green).

4. The serial number is printed ink-jet by propelling small droplets of liquid ink directly onto the substrate, a technique that is not usually utilised on banknotes.

5. Poor adhesion of the stripe onto the substrate, with some fragments of the holographic stripe missing. These defects suggest that the applied holographic foil choice is inadequate and is likely that the foil would not withstand well a typical banknote lifecycle / circulation.

6. The colour shifting security feature depicting four eight-pointed stars is printed utilising colour shifting ink that is not widely available and only from a limited number of suppliers.

7. Semantic difference with notes issued by the CBY found in the second line of text on the front of notes, just under the line: Central Bank of Yemen. On the YER 1,000 note the text reads: Issued by virtue of the Central Bank of Yemen Law, while on the YER 5,000 note the text reads: Cheque issued by the Central Bank of Yemen.

8. The words in the sequence Five Hundreds Riyals (خمسمائة_ريالin Arabic) under the numeric 500 are separated by one spaces in the YER 500 note while the words in the sequence Five Thousand Riyals (خمس الاف ريالin Arabic)are stuck together, to appear as FiveThousandRiyals. The spaces which are seen in

Yemeni and most Arabic notes with varying width are not seen in notes with Arabic characters such as from Jordan, Iran and KSA.

9. The serial number on genuine YER 500 and YER 1,000 notes is a seven digit number, while on the counterfeit YER 5,000 note it is an eight digit number.

10. The banknote serial number on the YER 1,000 note appears in two positions, in a vertical and a horizontal direction, whilst the serial number on the YER 5,000 note appears twice, only in a horizontal direction.

11. The lack of intaglio printing, watermark and / or a security thread due to budgetary constraints are usually those of lower denominations and extremely rarely of higher denomination

12. The poor fit could be caused by the utilisation of inadequate printing equipment, poor process control or both - suggesting that the questioned note was not printed by a company ordinarily involved in banknote manufacturing.

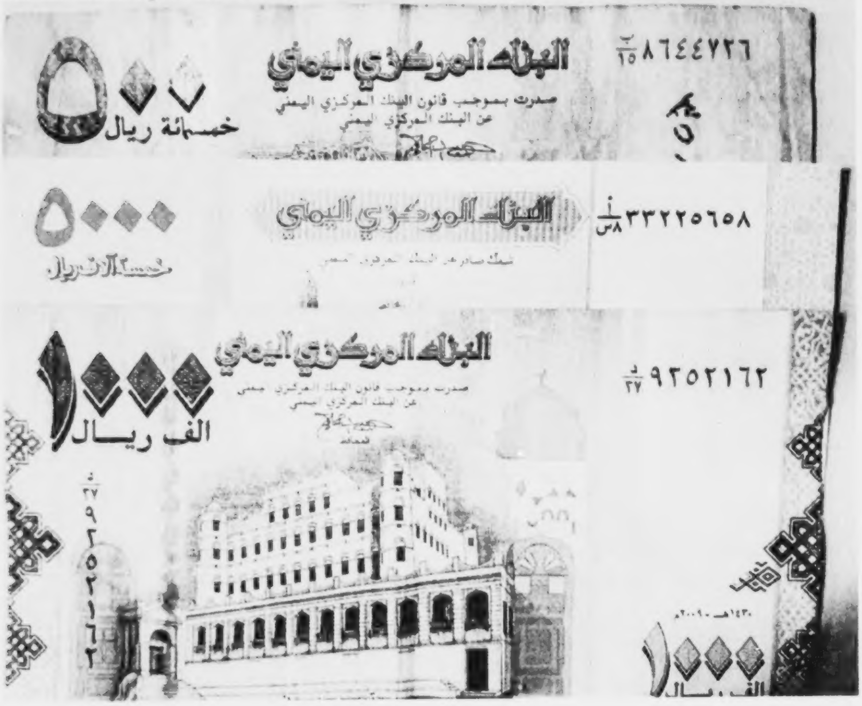
13. Simulation of a security print feature is usually expected to be seen on counterfeit notes.

14. The manufacturer of the questionable YER 5,000 note appears to have access to equipment and materials that are available to a commercial printing company.

15. The ability to source and successfully utilise colour shifting and fluorescent inks is an indication that the manufacturer of the 5000 YER note is a security printing company generally specialised in printing of cheques, tax stamps or other security documents such as gift vouchers.

Figure 53.7

Semantic comparison between 5 000 YER note (middle) with 500 YER (top) and 1000 YER bottom



II. Conclusions

16. Following a thorough comparative evaluation, and due to a number of observed deficiencies, most notably the absence of: 1) intaglio printing; 2) letterpress numbering; 3) watermark; and 4) a security thread, the note does not meet the standards of a contemporary, counterfeit-resilient banknote.

17. The see-through feature on the note exhibits poor registration between front and reverse of the note, where blue and green segments of the numerals should be joined to give perfect or near-perfect fit between print on the front and reverse. This fault might appear only on a small number of banknotes. If the fault appears on a large number of banknotes it would indicate that the printer is not able to control the process well. One of the most unexpected characteristics of the questioned banknote is not the absence of a split duct printing, but its simulation, which only gives the appearance of the smooth merging of inks into each other. One other plausible explanation would be that the feature was deliberately sacrificed in order to ensure more economical use of a substrate.

Annex 54: Cases of seizure of the non-authorized export of banknotes and gold bars through Shehen, Mahrah

I. Banknotes and gold bars seized in Shehen, Mahrah on 9 May 2017

1. The Panel is investigating a potential case of trafficking of finance assets potentially for the benefit of listed individuals following the seizure on 9 May 2017 at the Shehen border crossing point (BCP) with Oman. A pickup truck was inspected by Yemeni local authorities and found to contain the equivalent of US$ 3.42 Million in mixed foreign currency and gold.[1] The customs service proceeded the same day with the arrest of the two individuals, seizure of the vehicle, the deposit of the shipment at the CBY branch and the submission of the case to the prosecutor.

2. On 15 May 2017, the prosecutor, Naji Said Mohamed Kadah, ordered the customs to release the two individuals and the vehicle, and to handover the shipment to a third person presented as the owner. As the Head of Customs refused, the Governor himself ordered him to comply informing him that he was in contact with President Hadi on the subject. The Panel has not received any confirmation as to the current custody of the shipment. The individuals involved are:

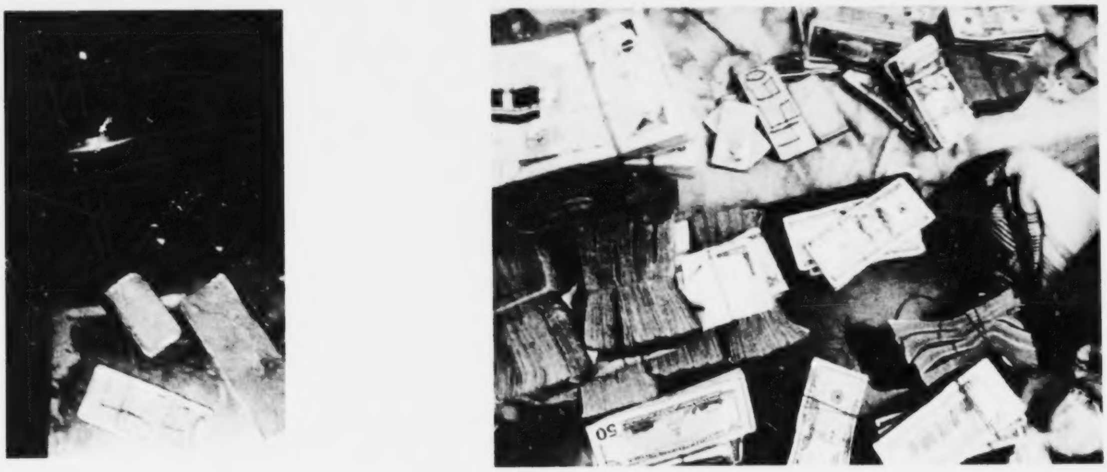
(a) Mohamed Mohamed Saleh al-Addah from Shabwah, arrested at the BCP as the custodian of the shipment;

(b) Saleh Saed Ahmed Judhaib from Ma'rib, arrested at the BCP; and

(c) Saleh Yahya Mohamed Abdullah al-Haddad, owner of the Yahya Mohamed al-Haddad company for trade and entrepreneurships, presented documentation claiming that he was the owner of the shipment.

3. This case is an illustration of the smuggling activity in Mahrah as well as the involvement of local authorities in the trafficking.

Figure 54.1
Cash and gold bars seized at Shehen BCP, Mahrah on 9 May 2017[2]



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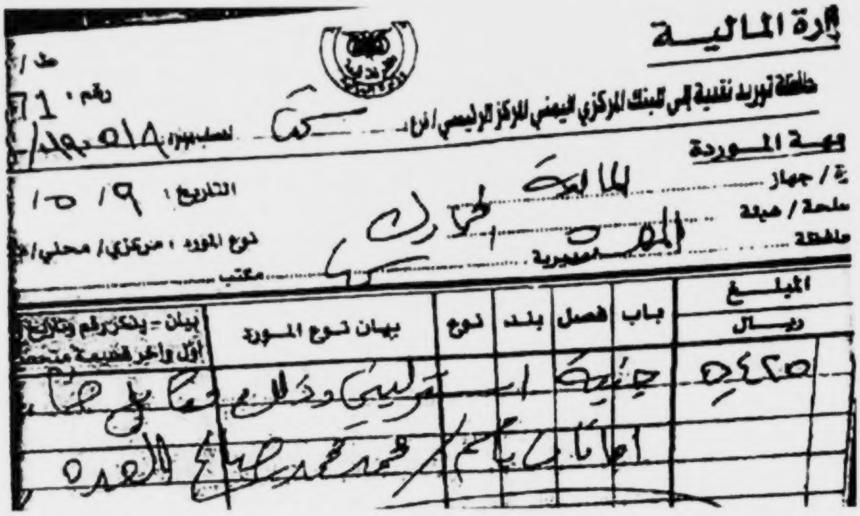
[1] GBP 5,425, AED 150,000, SAR 8,726,106, QAR 107,429, US$ 178,850 and 19.04 kg of gold ("at US$39 per gram")

[2] **Source:** https://www.al-omana.com/news56507.html, 9 May 2017. Corroborated by local customs and judiciary authorities.

Figure 54.2
Customs receipt for GBP 5,425 cash seized at Shehen BCP, Mahrah on 9 May 2017



ارة المالية

حافظة توريد نقدية إلى البنك المركزي اليمني المركز الرئيسي / فرع

ح /
رقم : ١٠
تسلسل : ٥١٨ ...

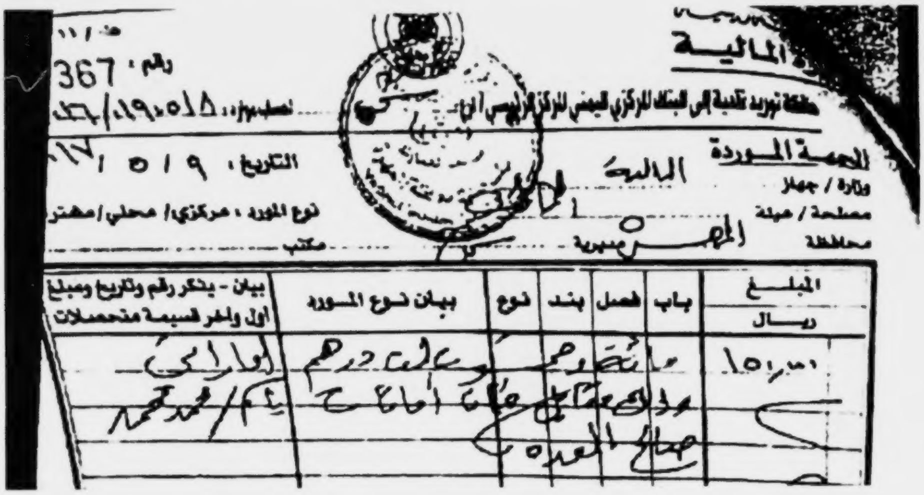
التاريخ : ١٥ / ٩

جهة المـوردة
وزارة / جهاز المالية
مصلحة / هيئة الجمارك
محافظة المهرة

نوع المورد : مركزي / محلي /
مكتب

المبلغ ريال	باب	فصل	بند	نوع	بيان نوع المورد	بيان - يذكر رقم وتاريخ أول وآخر قسيمة متحصلات
٥٤٢٥	جنيه		١		استرليني وذلك من	ضبط على
	أمانات باسم				/ محمد محمد صالح	العده

Figure X54.3
Customs receipt for AED 150,000 cash seized at Shehen BCP, Mahrah on 9 May 2017



المالية

حافظة توريد نقدية إلى البنك المركزي اليمني المركز الرئيسي / فرع

ح / ١١
رقم : 367
تسلسل : ١٩٠٥١٥ / جج

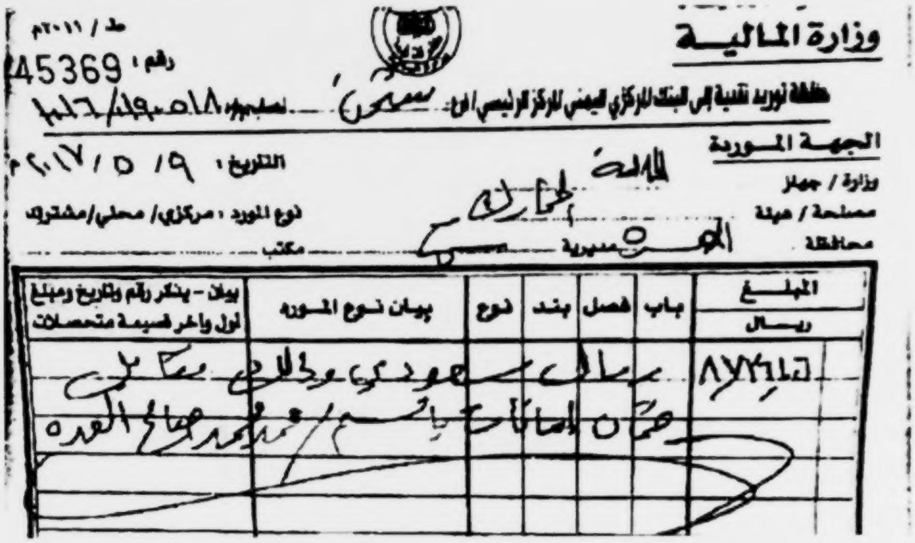
التاريخ : ٩ / ٥ / ١٧

الجهة المـوردة
وزارة / جهاز المالية
مصلحة / هيئة
محافظة المهرة

نوع المورد : مركزي / محلي / مشترك
مكتب

المبلغ ريال	باب	فصل	بند	نوع	بيان نوع المورد	بيان - يذكر رقم وتاريخ ومبلغ أول وآخر قسيمة متحصلات
١٥٠,٠٠٠	مائة وخمسين				ألف درهم	إماراتي
	مودعة أمانات باسم					/ محمد محمد
	صالح العده					

Figure 54.4
Customs receipt for SAR 8,726,106 cash seized at Shehen BCP, Mahrah on 9 May 2017



وزارة المالية

ط / ٢٠١١م

رقم : 45369

حافظة توريد نقدية إلى البنك المركزي اليمني المركز الرئيسي / فرع: سيحوت — بحسب مورد: ٨١٥٠٩ [illegible]

التاريخ : ٩ / ٥ / ٢٠١٧م

الجهة الموردة

وزارة / جهاز: المالية

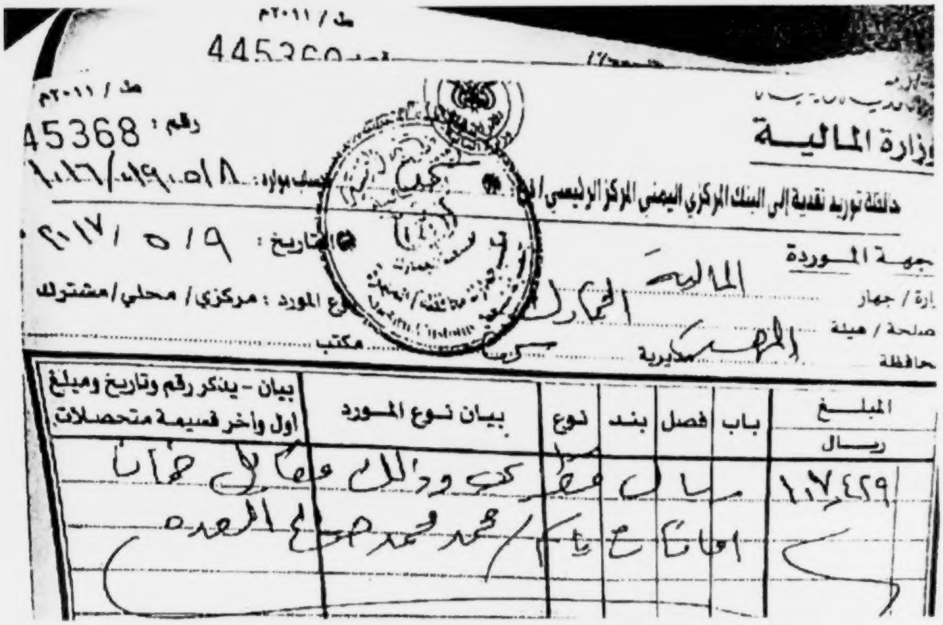
مصلحة / هيئة: الجمارك

محافظة: المهرة — مديرية: [illegible] — مكتب

نوع المورد : مركزي/ محلي/مشترك

المبلغ ريال	باب	فصل	بند	نوع	بيان نوع المورد	بيان - يذكر رقم وتاريخ ومبلغ اول واخر قسيمة متحصلات
٨٧٢٦١٠٦	ريال				سعودي وذلك مبلغ	ضمان امانات باسم / محمد محمد صالح العده

Figure 54.5
Customs receipt for QAR 107,429 cash seized at Shehen BCP, Mahrah on 9 May 2017



ط / ٢٠١١م

44536[illegible]

وزارة المالية

ط / ٢٠١١م

رقم : 45368

حافظة توريد نقدية إلى البنك المركزي اليمني المركز الرئيسي / فرع — بحسب مورد: ٨١٥٠٩ [illegible]

التاريخ : ٩ / ٥ / ٢٠١٧م

جهة الموردة

وزارة / جهاز: المالية

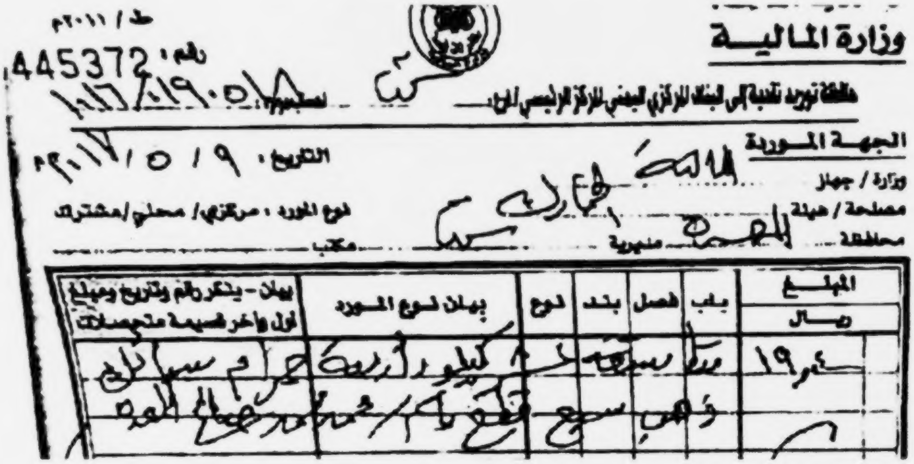
مصلحة / هيئة: الجمارك

محافظة: المهرة — مديرية: [illegible] — مكتب

نوع المورد : مركزي/ محلي/مشترك

المبلغ ريال	باب	فصل	بند	نوع	بيان نوع المورد	بيان - يذكر رقم وتاريخ ومبلغ اول واخر قسيمة متحصلات
١٠٧٤٢٩	ريال			قطري	وذلك مبلغ	ضمان امانات باسم / محمد محمد صالح العده

Figure 54.6
Customs receipt for 7 x 19.04kg gold bars seized at Shehen BCP, Mahrah on 9 May 2017



ح / ٢٠١١م

رقم: 445372

وزارة المالية

حافظة توريد نقدية إلى البنك المركزي اليمني المركز الرئيسي / فرع .... تسلسل ١٩٠٥ / ٢٠١٧

التاريخ: ٩ / ٥ / ٢٠١٧م

الجهة المورِدة

وزارة / جهاز .... المالية

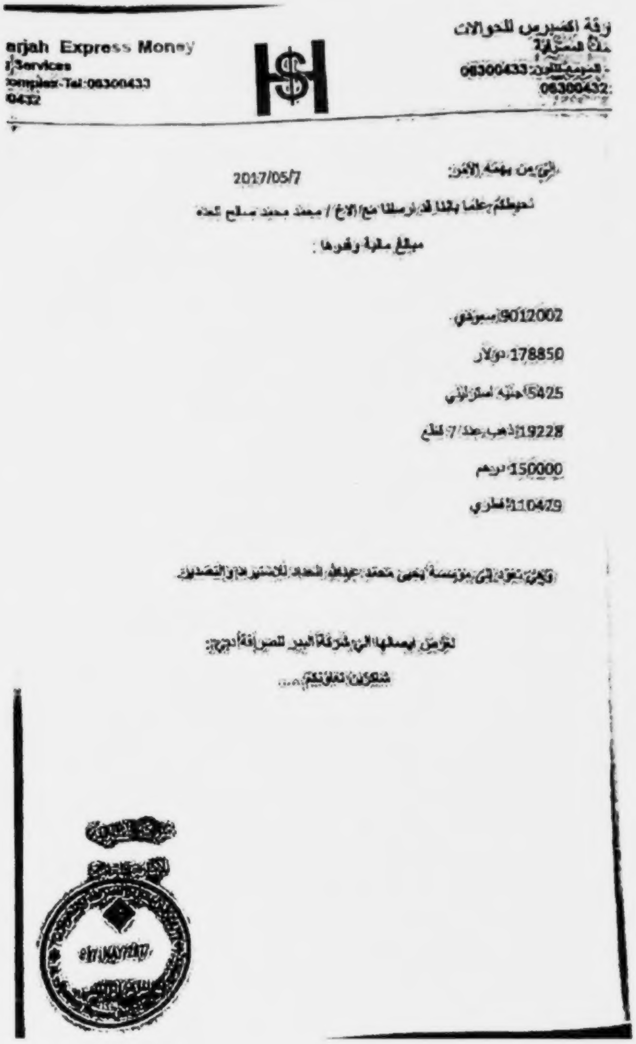
مصلحة / هيئة .... الجمارك

محافظة .... المهرة .... مديرية .... شحن .... مكتب ....

نوع المورد: مركزي / محلي / مشترك

المبلغ ريال	باب	فصل	بند	نوع	بيان نوع المورد	بيان - يذكر رقم وتاريخ ومبلغ أول وآخر قسيمة متحصلات
١٩	[illegible]	[illegible]			كيلو أربعة جرام ذهب سبع قطع	[illegible]

Figure 54.7
Declaration for funds deposited in Dubai



arjah Express Money
Services
omplex-Tel:06300433
0432

زقة اكسبرس للحوالات
ة الشارقة
- التوميتفون: 06300433
06300432

إلى من يهمه الأمر: 2017/05/7

نحيطكم علما بأننا قد ارسلنا مع الاخ / محمد محمد صالح العده

مبالغ مالية وقدرها :

9012002 سعودي

178850 دولار

5425 جنيه استرليني

19228 ذهب عدد/ 7 قطع

150000 درهم

110429 قطري

والتي تعود إلى مؤسسة يحيى محمد عوفان العماد للاستيراد والتصدير

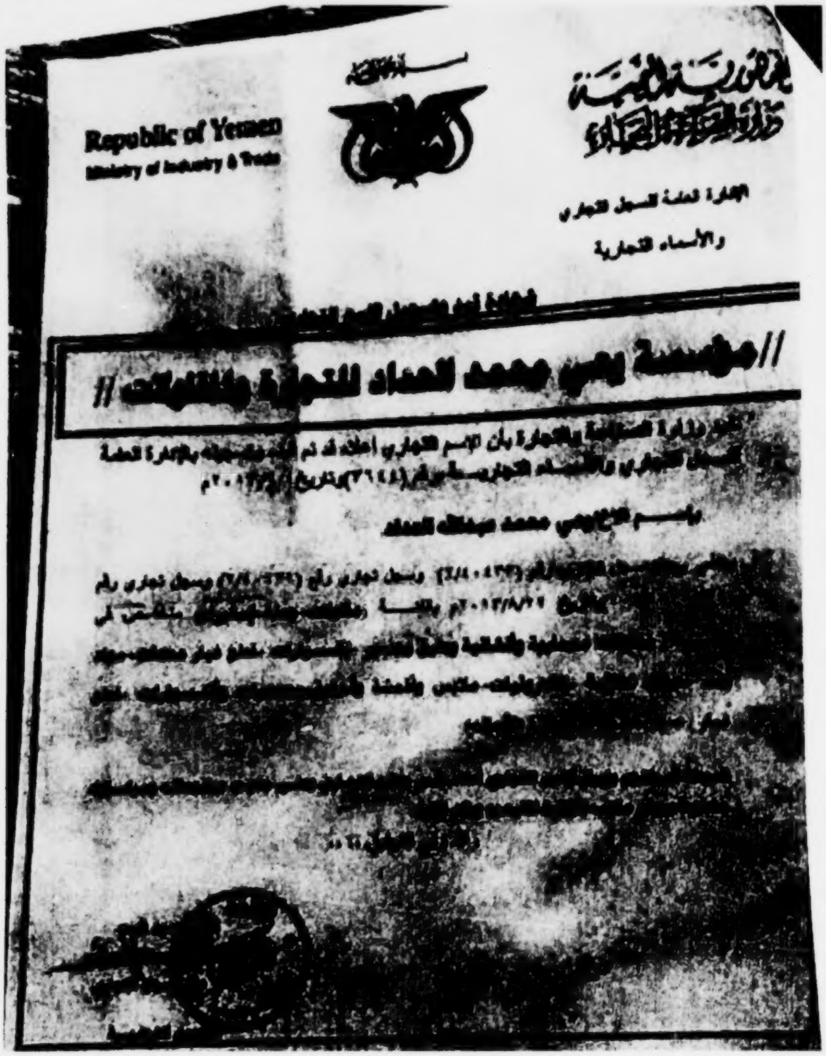
لغرض ايصالها الى شركة البدر للصرافة دبي:

شاكرين تعاونكم....

NOTE: Declaration that the funds were handed over to Mohamed Mohamed Saleh al-Addah for deposit at the Al Bader Exchange in Dubai.

Figure 54.8

Yahya Mohamed al-Haddad Institute for Trade and Enterprise registration documents (4 September 2013)



Republic of Yemen
Ministry of Industry & Trade

الجمهورية اليمنية
وزارة الصناعة والتجارة

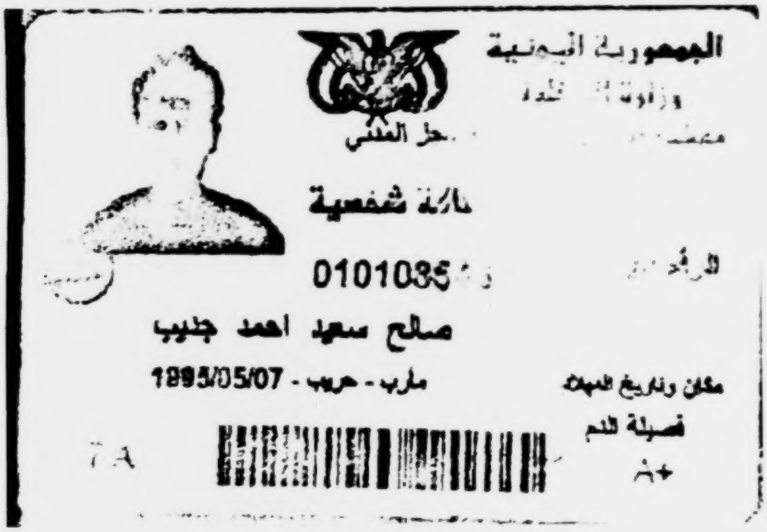
الإدارة العامة للسجل التجاري
والأسماء التجارية

// مؤسسة يحيى محمد الحداد للتجارة والمقاولات //

باسم الأخ/ يحيى محمد عبدالله الحداد

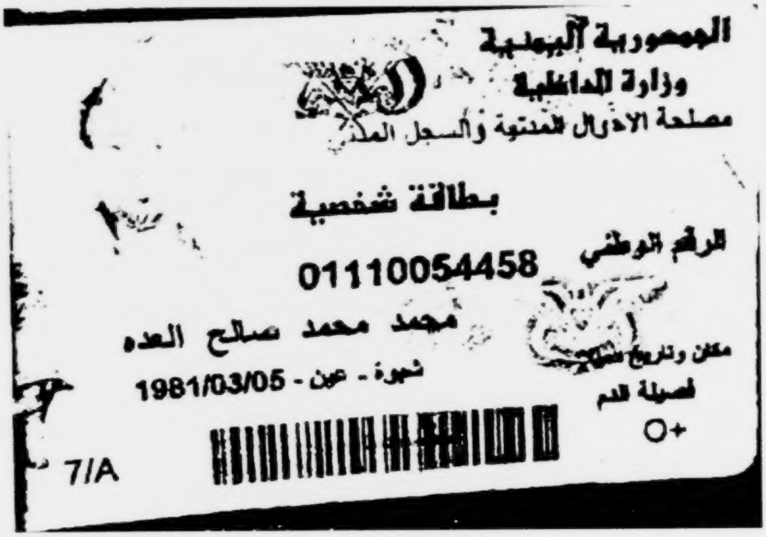
NOTE: Registration document for "Yahya Mohamed al-Haddad Institute for Trade and Enterprises" under the name of Yahya Mohamed Abdullah al-Haddad on 4 September 2013.

Figure 54.9
Identity document of Saleh Saed Ahmed Judhaib



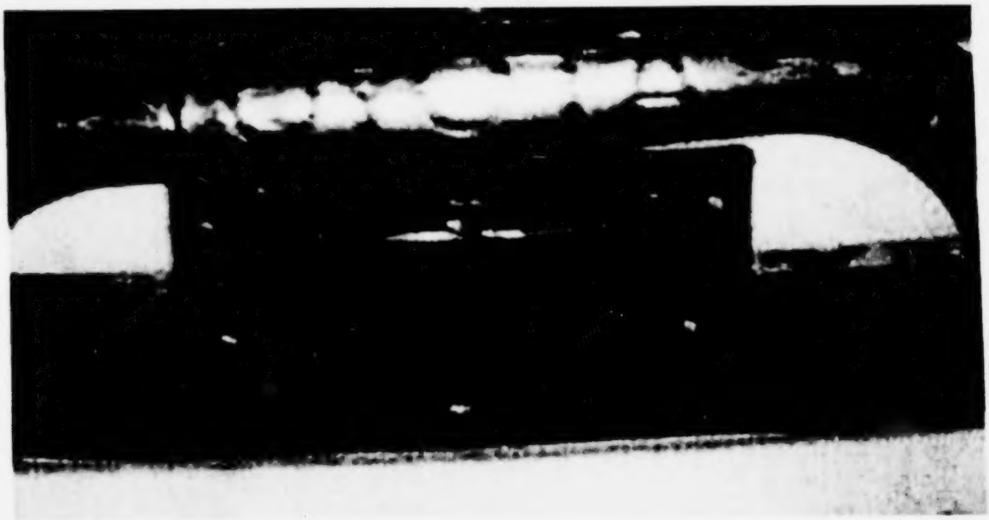
الجمهورية اليمنية
وزارة [illegible]
[illegible] ـجل المدني
ـاقة شخصية
الرقم [illegible] 0101035
صالح سعيد احمد جذيب
مكان وتاريخ الميلاد مأرب - حريب - 1995/05/07
فصيلة الدم
A+
7 A

Figure 54.10
Identity document of Mohamed Mohamed Saleh al-Addah



الجمهورية اليمنية
وزارة الداخلية
مصلحة الأحوال المدنية والسجل المدني
بطاقة شخصية
الرقم الوطني 01110054458
محمد محمد صالح العده
مكان وتاريخ الميلاد شبوة - عين - 1981/03/05
فصيلة الدم
O+
7/A

Figure 54.11
Vehicle licence plate of truck seized at Shehen BCP, Mahrah on 8 May 17



B. Banknotes and gold bars seized at Shehen BCP, Mahrah on 17 July 2017

1. The Panel is investigating two additional potential cases of trafficking of finance assets potentially for the benefit of listed individuals:

(a) Seizure on 17 July 2017 at Shehen BCP of 7,174,700 Saudi Riyal (SAR); and

(b) Seizure on 27 July 2017at Shehen BCP of 300,000 SAR and 42 gold bars.

2. On 9 May 2017 at the Shehen BCP with Oman, a pickup truck was inspected by Yemeni local authorities and found to contain the equivalent of US$ 3.42 Million in mixed foreign currency and gold.[3] The customs service proceeded the same day with the arrest of the two individuals, seizure of the vehicle, the deposit of the shipment at the CBY branch and the submission of the case to the prosecutor.

3. The Panel has shared the information with the Government of Yemen and is still awaiting a reply to its information requests.

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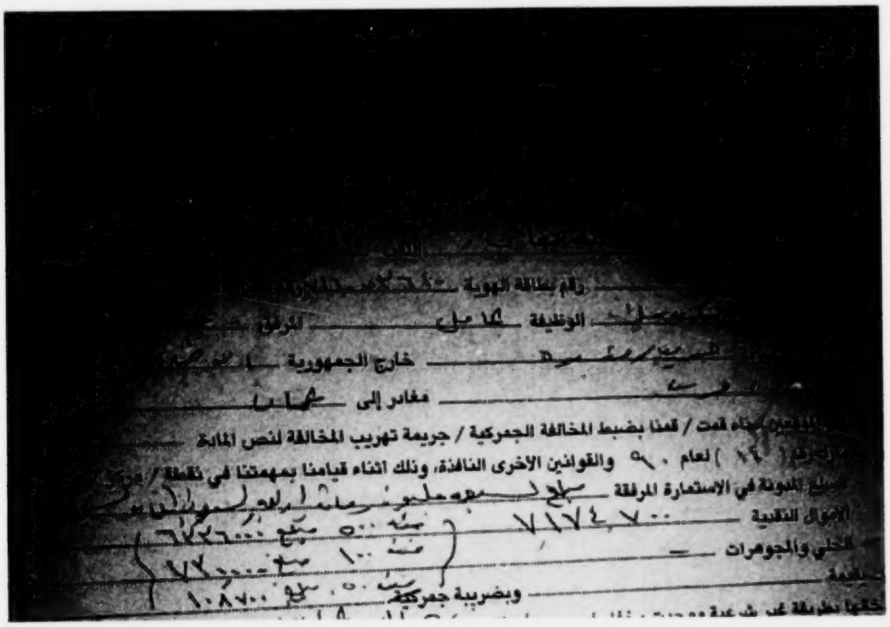
[3] GBP 5,425, AED 150,000, SAR 8,726,106, QAR 107,429, US$ 178,850 and 19.04 kg of gold ("at US$39 per gram").

Figure 54.12
Customs form XX 378 on the seizure on 17 July 2017 at Shehen BCP of SAR 7,174,700



رقم بطاقة الهوية [illegible]

الوظيفة عامل المرافق

خارج الجمهورية [illegible]

مغادر إلى عمان

قمت / قمنا بضبط المخالفة الجمركية / جريمة تهريب المخالفة لنص المادة

رقم (١٦) لعام ٩٠ والقوانين الأخرى النافذة، وذلك اثناء قيامنا بمهمتنا في نقطة / مركز

المدونة في الاستمارة المرفقة [illegible]

الأموال النقدية ٧١٧٤٧٠٠

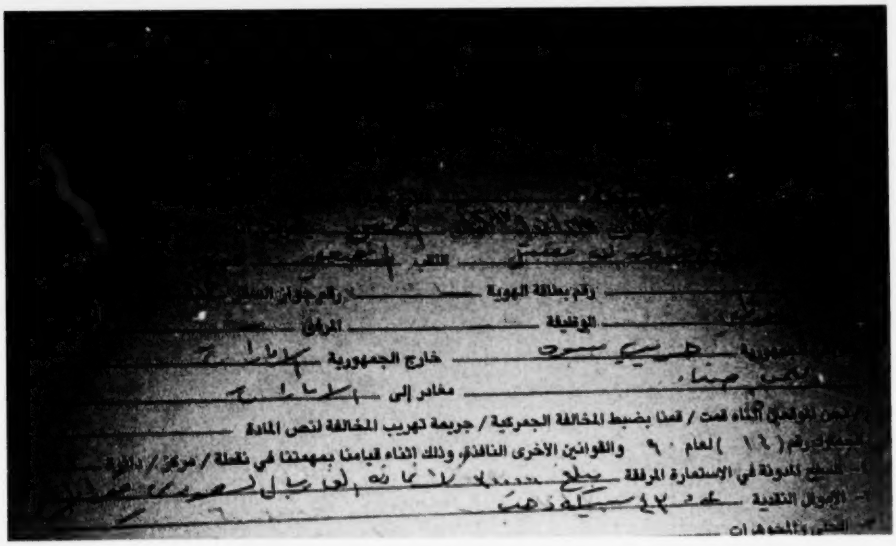
فئة ٥٠٠ مبلغ ٦٦٧٤٦٠٠

فئة ١٠٠

الحلي والمجوهرات —

وبضريبة جمركية ١٠٨٧٠٠

Figure 54.13
Customs form XX 379 on seizure on 27 July 2017 at Shehen BCP of SAR 300,000 and 42 gold bars



رقم بطاقة الهوية رقم جواز السفر

الوظيفة المرافق

خارج الجمهورية [illegible]

مغادر إلى [illegible]

قمت / قمنا بضبط المخالفة الجمركية / جريمة تهريب المخالفة لنص المادة

رقم (١٦) لعام ٩٠ والقوانين الأخرى النافذة، وذلك اثناء قيامنا بمهمتنا في نقطة / مركز / دائرة

المبالغ المدونة في الاستمارة المرفقة [illegible]

الأموال النقدية عدد ٤٢ سبيكة ذهب

الحلي والمجوهرات

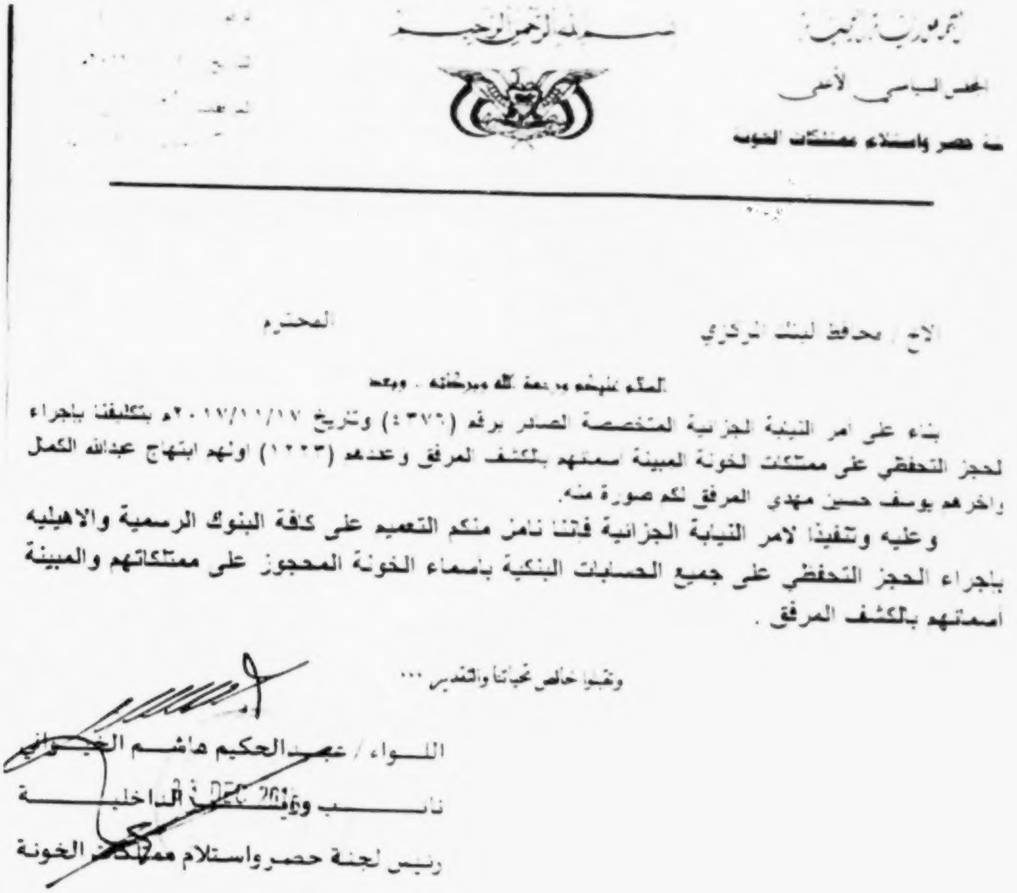
CONFIDENTIAL ANNEX NOT FOR PUBLIC DISSEMINATION

Annex 55: Confiscation of MV Androussa (IMO 9101182)

Annex 56: Houthis order to seizure assets owned by their opponents

Figure X56.1

Order to the Sana'a based CBY by "the committee for the identification and the confiscation of assets owned by traitors" to freeze assets of 1223 individuals[1]



الجمهورية اليمنية
المجلس السياسي الأعلى
لجنة حصر واستلام ممتلكات الخونة

بسم الله الرحمن الرحيم

الرقم:
التاريخ:
المرفقات:

الأخ / محافظ البنك المركزي المحترم

السلام عليكم ورحمة الله وبركاته .. وبعد

بناء على امر النيابة الجزائية المتخصصة الصادر برقم (٤٣٧٦) وتاريخ ٢٠١٧/١١/١٧م بتكليفنا بإجراء الحجز التحفظي على ممتلكات الخونة المبينة اسمائهم بالكشف المرفق وعددهم (١٢٢٣) اولهم ابتهاج عبدالله الكمال واخرهم يوسف حسين مهدي المرفق لكم صورة منه.

وعليه وتنفيذا لامر النيابة الجزائية فإننا نأمر منكم التعميم على كافة البنوك الرسمية والاهليه بإجراء الحجز التحفظي على جميع الحسابات البنكية بأسماء الخونة المحجوز على ممتلكاتهم والمبينة اسمائهم بالكشف المرفق .

وتقبلوا خالص تحياتنا والتقدير ...

اللـواء / عبدالحكيم هاشم الخيواني
نائب وزير الداخلية
رئيس لجنة حصر واستلام ممتلكات الخونة

DEC 201

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[1] The order was posted in several media. The Panel confirmed its authenticity with confidential financial sources in Sana'a. The Panel is analyzing the list comprising the 1,223 names.

Panel's unofficial translation from Arabic

Republic of Yemen
supreme political council 23/12/2017
committee for identification and seizure of assets owned by traitors

to the governor of the central bank

Based on the order of the special criminal prosecutor number 4376 dated 17 November 2017 which mandated us to take measures for the provisional seizure of assets owned by traitors whose names are in the attached list comprising of 1,223 names starting by Ebtehaj Abdullah al-Kamel and ending by Yussef Hussein Mahdi.

In this regard and in order to implement the special criminal prosecutor's order, we trust you could issue a circular to all banks for the provisional seizure of all bank accounts owned by traitors whose assets are seized and whose names are in the attached list

signed
major general Abdelhakim Hashem al Khewani
deputy minister of interior
head of the committee for identification and seizure of assets owned by traitors

END OF TRANSLATION

Annex 57: Saleh financial network

Table 57.1

List of individuals and entities of Saleh financial network

Ser	*Identity*	*Type*
1	**Ali Abdulah Saleh (Yei.003)** **(Deceased on 4 November 2017)**	Person
2	Ahmed Ali Abdullah Saleh (Yei.005) (a.k.a Ahmed Al-Ahmar Ali Abdullah)	Person
3	Khaled Ali Abdullah Saleh (a.k.a. Khaled Al-Ahmar Ali Abdullah)	Person
21	Towkay Limited British Virgin Islands	Company
22	Trice Bloom Limited, British Virgin Islands	Company
23	Precision Diamond Limited, British Virgin Islands	Company
24	Unmatchable Limited, British Virgin Islands	Company
25	Albula Limited, Turks and Caicos Islands	Company
26	Foxford Management Limited, Bahamas	Company
27	Weisen Limited, British Virgin Islands	Company
28	M-S Ansan Wikfs Hadramawt Limited, Cayman Islands	Company
29	SCI 59 Rue Galilee, France	Company
31	M-S ANSAN Wikfs Limited, Cayman Islands	Company
32	Ansan Wikfs Darfur (for Gold), Cayman Islands	Company
35	Afhamka B.V. Netherlands	Company
36	Wild Horse Investment Inc, Bahamas	Company
37	Raydan Investments LLC, UAE	Company
38	Tilsit Real Estate BV, Netherlands	Company
41	The Pact Trust	Company
43	59 Rue Galilee, Paris 75008, France	Address

Table 57.2

Raydan Investment Holdings Limited transfers in UAE[1]

Date	*AED*	*US$*	*Investment / Transfer in UAE*
Jan to Apr 2014	5,173,301	*1,407,865*	Ecostar International Holdings Limited
Feb to Apr 2014	25,560,000	*6,955,910*	Al Ramz Securities LLC bank account number AEXXXXXXXXXXXX58492164, National Bank
9 Jun 2014	*44,085,680*	12,000,000	Staroil Operating Company bank account number AEXXXXXXXXXXXX89601, Abu Dhabi Islamic Bank
25 Jun 2014	963,685	*262,300*	Select Global Development LLC account number AEXXXXXXXXXXXX09693, Mashreq Bank
23 Mar 2015	1,237,789	*336,906*	EMAAR Properties PJSC Opera Grand account number AEXXXXXXXXXXXXX54615, Commercial Bank of Dubai
22 Apr 2015	103,385	*28,140*	Evershed LLP bank account number AEXXXXXXXXXXXX39001, HSBC Bank Middle East for oil concession payment
Totals	**77,123,860**	**20,891,121**	

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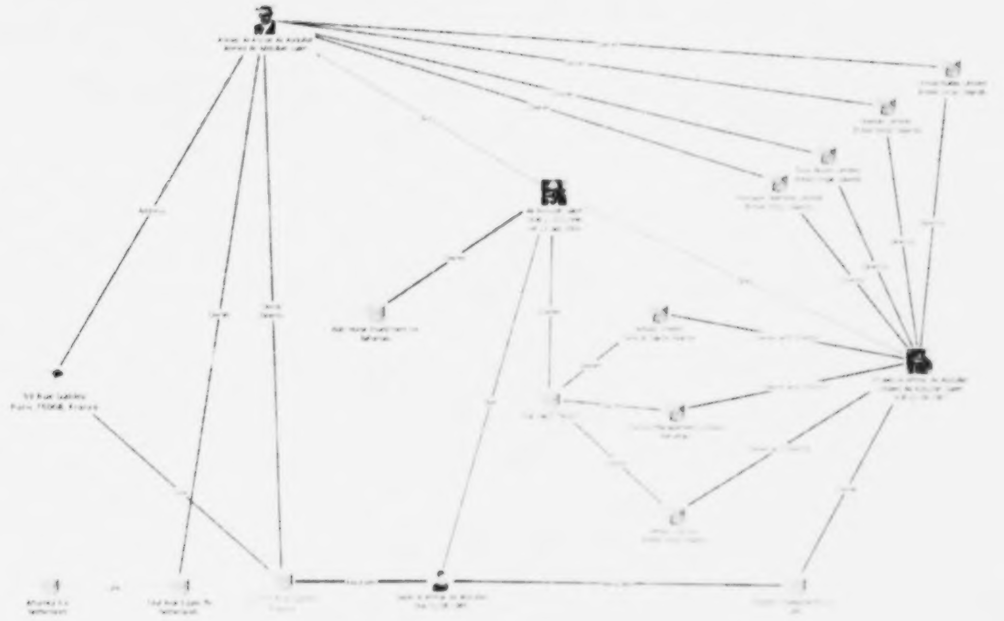
[1] The currency of transfer is in normal bold text. All exchange rates from www.xe.com on 3 July 2017. US$ 1 = AED 3.67.

Figure 57.1
Saleh financial network



Annex 58: Case studies of air strikes in Yemen (2017)

1. The Panel initiated investigations on ten air strikes against civilian targets in Yemen during 2017. Full case studies for four of these air strikes are included as shown in table 58.1.[1]

2. The Panel arrived at its findings and conclusions based on its own investigations and information available in the public domain. If the Saudi Arabia-led coalition can provide verifiable information on the military objectives sought to be achieved that may counter the Panel's conclusions and findings, the Panel stands ready to review them.

3. Saudi Arabia, on behalf of the Saudi Arabia led-coalition has refused to engage with the Panel, stating that "the coalition's activities" fall outside the mandate of the Panel of Experts.[2] The Panel reaffirms that violations of IHL, including those that are committed by the Saudi Arabia-led coalition, as a party to the conflict in Yemen, fall within the Panel's mandate and that those individuals responsible for planning, deciding on and/or executing air strikes[3] that disproportionately affect civilians and civilian infrastructure may fall under the designation criteria contained in paragraphs 17 and 18 of resolution 2140 (2014). The Saudi Arabia-led coalition, as the military entity carrying out these air strikes, can also fall within paragraphs 17 and 18 of resolution 2216 (2015) (see paragraph 8).

Table 58.1
Full case studies of air strikes against civilian targets

Date	*Location*	*Incident and target*	*Type of ordnance*	*Civilian casualties*	*Case study in Appx*
16 Mar 2017	Red Sea	Maritime helicopter attack against Somali migrant boat.	Small arms ammunition	42 dead 34 injured	A
25 Aug 2017	Sana'a	Air delivered ordnance against a civilian residence	High explosive (HE) aircraft (a/c) bomb	16 dead 17 injured	B
2 Sep 2017	Hajjah	Air delivered ordnance against a civilian residence	HE a/c bomb	3 dead 13 injured	C
1 Nov 2017	Sa'dah	Air delivered ordnance against a night market	HE a/c bomb fitted with Paveway guidance unit.	31 dead 26 injured	D

4. In the ten incidents investigated the Panel finds that:

(a) The use of precision-guided weapons[4] is a strong indicator that the intended targets were either the objects or the individuals affected by the air strikes;

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[1] The Panel selects its cases accordance with its IHL methodology in Annex 1, primarily based on the availability of requisite high standard of evidence.

[2] Letter from the Kingdom of Saudi Arabia dated 10 October 2017.

[3] Regarding those executing attacks, it is possible that the pilot of the aircraft may fire his or her weapons in reliance of the accuracy of the information that may have been previously provided to him or her. In these cases, the Panel finds that it is those commanders who plan and decide upon the air strikes, who have at their disposal the relevant information from a variety of sources, who have the responsibility to ensure compliance with international humanitarian law. See also William Boothby and Michael N. Schmitt, *The Law of Targeting* (Oxford University Press 2012).

[4] Precision-guided weapons systems have low percentage failure rates.

(b) In all cases investigated, there was no demonstrable evidence that the civilians in, or near these objects, who are *prima facie* immune from attack, had lost their civilian protection;

(c) Even if in some of the below mentioned cases, the Saudi Arabia-led coalition had targeted legitimate military objectives, the Panel finds, based on its investigations, that it is highly unlikely that the IHL principles of proportionality and precautions in attack were respected in these incidents;

(d) The cumulative effect on civilians and the civilian objects demonstrates that even if precautionary measures were taken, they were largely inadequate and ineffective; and

(e) In respect of the individual case studies, the Panel finds that:

(i) Except for case study 1, the only military entity capable of carrying out these airstrikes is the Saudi Arabia-led coalition. In case study 1, it is highly unlikely that an entity other than the Saudi Arabia-led coalition could have carried out the attack;

(ii) Except for cases 2 and 4, the Saudi Arabia-led coalition has not acknowledged its involvement in any of the attacks, nor clarified, in the public domain, the military objective sought to be achieved. In cases 2 and 4, the Panel is unable to concur with the justifications provided by the Saudi Arabia-led coalition.

(iii) In case study 4, an attack on a night market, even if there was a Houthi gathering as claimed by the Saudi Arabia-led coalition, evidence strongly demonstrates that the Saudi Arabia-led coalition did not meet IHL requirements of proportionality and precautions in attack. This also applies to case summary 7;

(iv) Except for case summary 10, where Saudi Arabia-led coalition targeted the 22nd Armoured Brigade of the legitimate Government, there is no demonstrable evidence that all those affected were deprived of the protection afforded to civilians; and

(v) In the cases where air strikes targeted residential buildings, over half of those affected were children. The Panel finds that measures taken in the Saudi Arabia-led coalition in its targeting process to minimize child casualties, if any, remain largely ineffective.[5]

5. In the absence of any verifiable information from the Saudi Arabia-led coalition, the Panel concludes that the evidence strongly demonstrates that these air strikes violated the IHL obligations of individual member States of the Saudi Arabia-led coalition. All States whose forces engage in, or otherwise participate in military operations on behalf of the coalition are responsible for "all acts committed by persons forming part of its armed forces".[6] These States "may not evade their obligations by placing their contingents at the disposal of an ad hoc coalition".[7] All Saudi Arabia-led coalition member States and their allies[8] also have an obligation to take appropriate measures to ensure respect for IHL by the Saudi Arabia-

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[5] For measures reportedly taken by the Saudi Arabia-led coalition to reduce child casualties, see paragraph 200 of the Secretary General's Report on Children in Armed Conflict, S/2017/821, 24 August 2017. The report notes that "the United Nations was informed of measures taken by the Saudi Arabia-led coalition in 2016 to reduce the impact of conflict on children, including through their rules of engagement and the establishment of a joint incident assessment team mandated to review all incidents involving civilian casualties and identify corrective action." Yet, of the 43 incidents examined by the Joint Incident Assessment Team (JIAT), made available to the Panel, in only two incidents did it find that the Saudi Arabia-led coalition violated IHL. The Panel also notes that there is no transparency in the implementation of the recommendations of the JIAT by the Saudi Arabia-led coalition.

[6] See updated commentary to common article 1 of the Geneva Conventions of 12 August 1949. See also article 3 of The Hague Convention respecting the Laws and Customs of War on Land of 1907.

[7] See updated commentary to common article 1 of the Geneva Conventions.

[8] Based on the updated commentary to common article 1, "allies" may include those States that engage in "financing, equipping, arming or training" of the coalition armed forces for their engagement in Yemen and/or those States that plan, carry out and debrief operations jointly with the coalition. For the specific States that are involved, see para. 30.

led coalition.[9] This obligation is especially incumbent upon the Government of Yemen, upon whose request and with whose consent the air strikes are being conducted (see S/2015/217). The Panel stands ready to provide the Committee with further information if requested, but in the interest of brevity, provides only summaries of the cases in table 58.2 below.

Table 58.2

Other air strikes against civilian targets

Appx to Annex 58	*Date*	*Location*	*Incident and target*	*Type of ordnance*	*Civilian casualties*
D	9 Jun 2017	Sana'a	Air delivered EO against residential building	Mk 82 or 84 HE bomb / Paveway	4 dead 8 wounded
E	4 Aug 2017	Sa'dah	Air delivered EO against a civilian residence	Mk 84 2000lb aircraft bomb	9 dead 3 injured
F	23 Aug 2017	Arhab	Air delivered EO against hotel	Mk 82 or 84 HE bomb / Paveway	33 dead 25 injured[10]
G	16 Sep 2017	Ma'rib	Air delivered EO against civilian vehicle	HE a/c bomb or air to ground missile (AGM)	12 dead
H	10 Nov 2017	Sa'dah	Air delivered EO against residential building	Mk 82 or 84 HE bomb / Paveway	4 dead 4 injured
I	14 Nov 2017	Ta'izz	Air delivered ordnance against legitimate Government of Yemen forces on Saber mountain	Mk 82 or 84 HE bomb / Paveway	3 dead 5 injured

6. The Panel also takes note of the JIAT findings that differ from Panel findings in 2016, on the case study summaries contained in serials 5, 7, 8, and 9 of S/2017/81. The Panel, after evaluating the information provided by the JIAT in the public domain, attaches the full case studies of those incidents in annex 60. The Panel, in contrast to the JIAT findings, confirms that: 1) the Saudi Arabia-led coalition was responsible for those air strikes; and 2) in the absence of any credible evidence to the contrary including the military objectives, which can only be provided by the Saudi Arabia-led coalition, evidence still strongly demonstrates that the Saudi Arabia-led coalition violated IHL in those incidents.

7. IHL requires military commanders and those responsible for planning, authorizing and executing decisions regarding attacks to take all feasible precautions to avoid, and in any event to minimize, incidental loss of civilian life, injury to civilians and damage to civilian objects. Air strikes that disproportionately affect civilians and civilian infrastructure are veritable threats to the peace, security and stability of Yemen.

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[9] This obligation to respect and ensure respect under common article 1 of the Geneva Conventions of 12 August 1949 is not limited to those coalition States that actively participated in this air strike as stated in the updated commentary "The duty to ensure respect … is particularly strong in the case of a partner in a joint operation, even more so as this case is closely related to the negative duty neither to encourage nor to aid or assist in violations of the Conventions. The fact, for example, that a High Contracting Party participates in the financing, equipping, arming or training of the armed forces of a Party to a conflict, or even plans, carries out and debriefs operations jointly with such forces, places it in a unique position to influence the behaviour of those forces, and thus to ensure respect for the Conventions."

[10] UN figures. See "Press briefing note on Yemen, Cambodia and Guatemala". Media and witnesses reported that 60 people died, and 13 were injured. In accordance with Panel methodology in annex 2, the Panel relies on UN data when the casualty figure is above ten. The Panel has requested, and is awaiting, an update on the figures from the UN OHCHR.

Appendix A to Annex 58: Maritime attack against Somali migrant boat, Hudaydah on 16 March 2017[11]

I. Introduction

1. This case study aims at identifying acts considered by the Panel as potential violations of IHL. This annex includes the Panel's findings on the incident relating to an attack on a boat carrying civilian migrants that occurred on 16 March 2017, within 60 nautical miles (nm) off the Yemeni Red Sea coast.[12]

2. This incident took place in a maritime area where there has been a recent escalation of hostilities. All the available evidence points to the incident being directly linked to the Yemen conflict. Given that no Member State or organization has so far accepted responsibility for the incident, the Panel is currently discounting the possibility that the incident was a result of a legitimate law enforcement operation permitted under Article 73 of the United Nations Convention on the Law of the Sea, unless further evidence to the contrary is found.

II. Background[13]

3. On the night of 16 March 2017,[14] a small vessel carrying approximately 146 passengers[15] was attacked in the Red Sea off the coast of Yemen. There were at least 42 fatalities, which included 11 Somali women,[16] and 34 Somalis, including eight children, were injured.[17] The vessel, which contained predominantly Somali nationals, was sailing away from Yemen when the incident occurred.[18] Sources state that some of the migrants had left al-Kharaz camp in Ras al-Ara in Lahij Governorate in Yemen and that the boat was destined for Sudan.[19] Survivors state that late in the night of 16 March 2017, a large vessel approached the boat and ordered the boat to stop. When the boat proceeded without stopping, rockets were fired that did not impact on the boat. The helicopter, highly likely to have come from the large vessel, fired on the boat for five minutes and then circled the boat and fired again from another direction resulting in the damage and injuries documented in this case study.[20] The helicopter then left, as did the vessel. After 30 minutes[21] the boat proceeded to shore, without encountering further resistance or any assistance.

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[11] This case study was included in the mid-term update submitted to the Committee on 28 July 2017. An updated version is included here.

[12] Some accounts state that the vessel was between 30 - 55 nm off the coast of Yemen when the incident occurred. As far as the Panel is aware, there were no distress call made to the shore and there is no open source record of the geo-location of the incident. The Government of Yemen claims a territorial sea out to 12 nm from their coast, a contiguous zone of 24 nm and an exclusive economic zone out to 200nm. This is in accordance with the United Nations Convention on the Law of the Sea (UNCLOS) www.un.org/depts/los/convention_agreements/texts/unclos/unclos_e.pdf, which Yemen ratified on 21 July 1997 and acceded to the subsequent Agreement that amended the original convention on 13 October 2014.

[13] For media coverage on the issue, see http://ca.reuters.com/article/topNews/idCAKBN16O0I3-OCATP http://www.euronews.com/2017/03/17/dozens-of-somali-refugees-killed-in-airstrike-off-yemen; https://ethiocritical.com/2017/06/06/saudi-chopper-massacre-analysis-of-the-deaths-of-42-somali-refugees-at-sea-and-why-justice-is-beyond-them/amp/. For the Government of Somalia's initial response, see http://www.independent.co.uk/news/world/middle-east/saudi-arabia-led-coalition-blamed-somalia-deadly-attack-boat-refugees-fleeing-yemen-a7637456.html.

[14] Some witnesses stated that the attack occurred after around 21.00 hours.

[15] This included four Yemenis.

[16] In Yemen, women are not considered likely to engage in hostilities. Under IHL, women, like children are afforded special protection.

[17] OHCHR. See also http://www.unhcr.org/news/press/2017/3/58cc01754/news-comment-unhcrs-spokesperson-william-spindler-attack-refugee-boat-yemen.html. UNHCR reports that at least 42 were killed in the incident. www.unhcr.org/news/press/2017/3/58cfe9824/unhcr-condemns-refugee-deaths-yemen-calls-inquiry.html.

[18] Source: UN.

[19] UN. Some sources stated that the boat stopped at many unspecified locations along the path to pick up migrants who joined the journey.

[20] Testimony from Panel sources, testimonies shared by two organizations, interviews with UN agencies, and international organizations, Somali diaspora, information/ reports provided by four international organizations, and open source documentation. There were no reports of the shots being fired from the vessel.

[21] Sources informed the Panel that those alive hid themselves beneath the bodies of the dead and remained motionless for approximately 30 minutes to avoid further attack.

4. The Panel has not obtained any evidence that demonstrates the presence of any fighters, weapons or military equipment in the vessel that would have made the vessel a legitimate military target, nor had any party to the conflict alleged the boat to be a military target (see paragraph 20). The Panel's request to visit the site to interview survivors and inspect the boat was denied by the Houthi-Saleh alliance.[22]

Figure A.58.1
Migrant boat in port after attack (17 March 2017)[23]

III. Technical analysis[24]

A. Wound ballistics and calibre

5. The Panel analysed imagery from a range of sources that was taken on 17 and 22 March 2017. From the immediate post-incident imagery of 17 March 2017, which included human remains still on the vessel, wounds were identified that had all the characteristics of the penetrating and perforated trauma[25] typical of that caused by the impact of a high velocity small arms round. It is almost certain[26] that the wounds had been caused by small arms fire from a weapon of a calibre of no more than 7.62mm.

B. Location of firing point

6. The circumstances surrounding the incident mean that only the perpetrator themselves can confirm the exact geo-coordinates the weapon was fired from. All forensic evidence from the firing point would remain on the firing platform or be lost to the sea. Notwithstanding this, examination of physical forensic evidence on the small vessel itself provides indicators as to the direction and altitude of the firing point.

7. Examination of the imagery taken on 22 March 2017 and obtained by the Panel identified a bullet strike from a small calibre high velocity round of between 5.56mm to 7.62mm in one of the blue barrels on the deck of the vessel (figures A.58.2 to A.58.5). The bullet has perforated the top of the barrel and the kinetic energy of impact has caused plastic deformation to the barrel material in the area immediately surrounding the bullet strike. Figure 1.X.5 shows the damage to the hull of the vessel caused by a bullet perforating the hull from the inside to outside. Larger calibre bullets (12.7mm and above), or cannon rounds (20mm and above) would have caused substantially more damage than that shown in the imagery.

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[22] Letter to Panel dated 23 March 2017

[23] Photos contained in this case study were obtained from three confidential sources who collected the imagery independently of each other and these photos were verified against multiple different open source imagery

[24] The Panel has consulted with an independent ballistic forensic scientist Mr. Philip Boyce BSc. MSc. who agrees with the technical analysis of the Panel

[25] Penetrating trauma occurs when the bullet remains within the human body. Perforating trauma occurs when the bullet passes through the human body. In the case of perforating trauma from a high velocity projectile the exit will typically be larger than the entry wound

Figure A.58.2

Bullet strike on blue barrel[27]

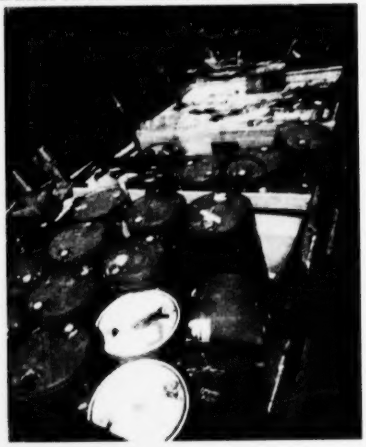


Figure A.58.3

Bullet strike on blue barrel

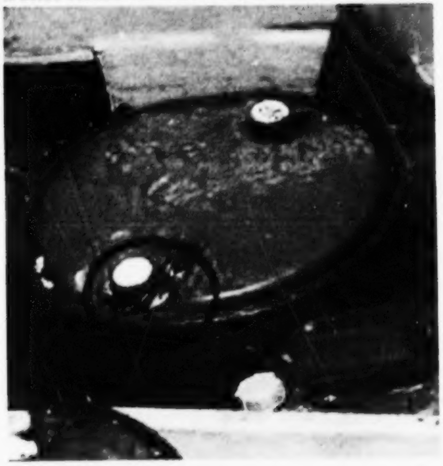


Figure A.58.4

Bullet strike on blue barrel

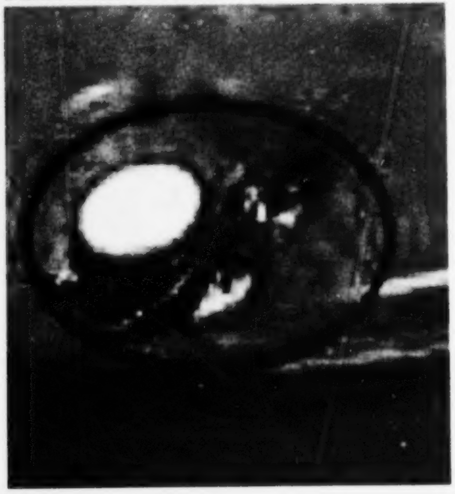
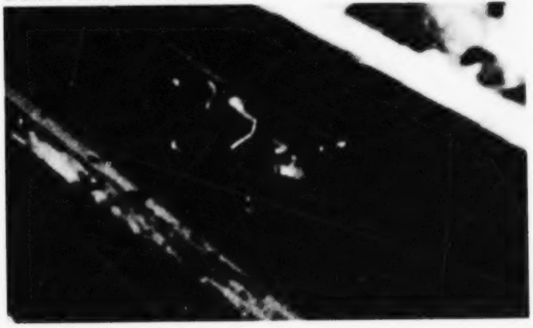


Figure A.58.5

Bullet strike on hull[28]



8. Closer examination of figures A.58.3 to A.58.5 also clearly shows a directional impact strike indicating that the round was fired from a direction forward of the vessel. This direction correlates with the training given to armed forces that are taught that the ideal firing position from a moving platform to a moving target is generally with the target moving directly towards you. This reduces the need for lateral deflection[29] when aiming, and also makes best use of the 'beaten zone' of a machine gun as it means the target is moving into the impact zone and not out of it.

9. The beaten zone of a machine gun is the elliptical pattern formed by the rounds striking the ground or the target. The size and shape of this beaten zone changes when the range to the target changes or when the machine gun is fired from differing altitudes. On uniformly sloping or level terrain, the beaten zone is long and narrow. As the altitude of the machine gun increases, its attitude to the target changes and the relative beaten zone becomes

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[27] Image source: Confidential.

[28] Source: https://www.youtube.com/watch?v=Dl4Sn0J59DS

[29] Deflection is a technique used for effectively firing a projectile at a moving target, which is also known as "leading the target". It means shooting ahead of a moving target so that the target and projectile will collide.

shorter and slightly wider. Figures A.58.6 to A.58.8 illustrate how the beaten zone of a machine gun will change dependent on its platform. In this case: 1) normal land; 2) the deck of a ship; and 3) from an aerial platform such as a helicopter.

Figure A.58.6
Beaten Zone (MG on Ground)

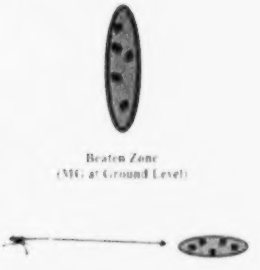

Beaten Zone
(MG at Ground Level)

Figure A.58.7
Beaten Zone (MG on Deck of Ship)

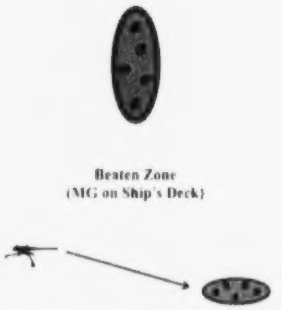
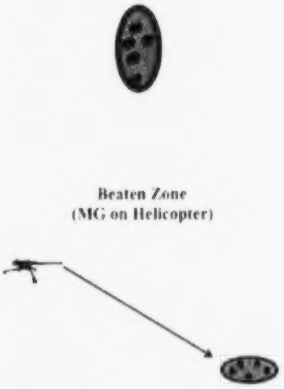

Beaten Zone
(MG on Ship's Deck)

Figure A.58.8
Beaten Zone (MG on Helicopter)


Beaten Zone
(MG on Helicopter)

10. The Panel finds it highly unlikely that a surface attack from another small vessel took place as: 1) the gunshot damage on the blue barrel (figures A.58.3 and A.58.4) was not from low angle trajectory high velocity fire; and 2) the humans on the vessel would have shielded the blue barrel from low angle trajectory high velocity fire.

Figure A.59.9
Bullet trajectory analysis (side view)

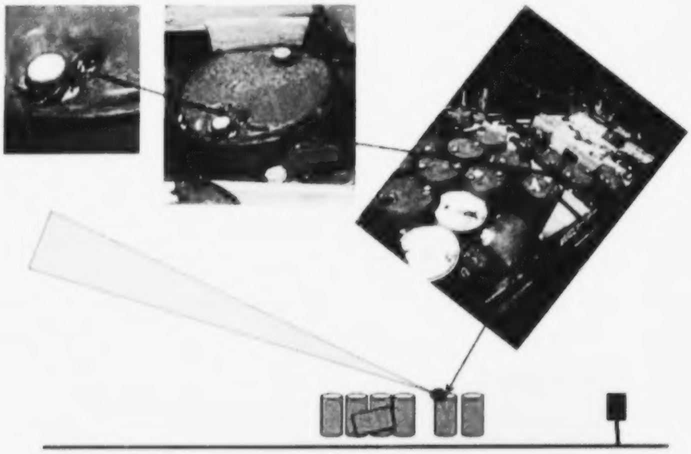
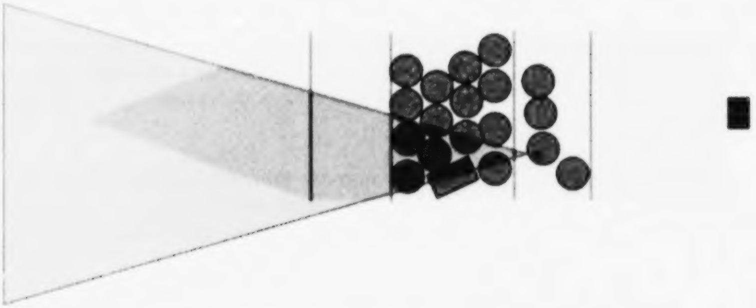


Figure A.58.10
Bullet trajectory analysis (plan view)



11. The Panel finds it unlikely that a surface attack from a weapon mounted on a naval vessel was the cause of the attack based on the analysis of the attack angle estimated in paragraph 8 above, but cannot discount the possibility of a naval vessel being present in the local area. Table A.58.1 shows the distances at which various vessel types would have to have been located for rounds from a weapon on their deck to hit the migrant boat based on the attack angle established in figure A.58.9.

Table A.58.1
Bullet trajectory analysis

Ser	*Vessel type*	*Height (m)*	*Trajectory angle*		*Range (m)*	*Trajectory angle*		*Range (m)*
			Degrees	*TAN*		*Degrees*	*TAN*	
1	Corvette (Deck)	4.2	15	0.268	15.7	20	0.36	11.5
2	Corvette (Bridge roof)	13.1	15	0.268	48.9	20	0.36	36.0
3	Frigate (Deck)	9.4	15	0.268	35.1	20	0.36	25.8
4	Frigate (Bridge roof)	16.3	15	0.268	60.8	20	0.36	44.8
5	Destroyer (Deck)	6.8	15	0.268	25.4	20	0.36	18.7
6	Destroyer (Bridge roof)	14.9	15	0.268	55.6	20	0.36	40.9
7	Aircraft Carrier (Flight deck)	16.5	15	0.268	16.5	20	0.36	45.3
8	Aircraft Carrier (Bridge)	31.7	15	0.268	31.7	20	0.36	87.1
9	VLCC[10] (Deck)	17.1	15	0.268	17.1	20	0.36	47.0
10	VLCC (Bridge wing)	46.4	15	0.268	46.4	20	0.36	127.7

12. This analysis clearly shows that any attack from another vessel would have to have been so close that the passengers could hardly fail to notice it was firing at them.

13. Similarly, the analysis also clearly shows that the shots could not have been fired from the land because the boat would have to have been so close to land (island or coast) that the passengers could not fail to notice their proximity to the land. In this case it is probable that they would have grounded the boat before being shot at based on the firing angle analysis, unless fired at from tall cliffs.

14. The distance height parameters do allow for an AK47 attack from within the boat, but the Panel has found no evidence of this possibility to date.

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[10] Very Large Crude Carrier

15. The Panel thus concludes that the attack was from an aerial platform based on the trajectory of the bullet strike as shown in figures A.58.9 and A.58.10 and the analysis of attack angles in table A.58.1.

C. Weapon type

16. The Panel has discounted the impact of an explosive weapon (including rockets) on the vessel, as there is no indication in any of the imagery of any explosive effects such as fragmentation, deformation or metal shear, on materials.[31] Similarly there is no photographic evidence of traumatic amputation on the casualties, which would be expected if it were an explosive attack.

17. The calibre of the bullet (5.56mm to 7.62mm) indicates that only the following generic weapon types could have been used for this attack: 1) assault rifle; 2) light machine gun; 3) medium machine gun; or 4) minigun.[32] There have been media reports[33] that an AH64 Apache attack helicopter[34] was used for the attack. However the Panel has discounted the Apache as an attack platform as that particular helicopter only carries: 1) 30mm M230 Chain Gun;[35] 2) 70mm Hydra,[36] CRV 7[37] or APKWS[38] air to ground rockets; 3) AIM-92 Stinger;[39] and/or 4) Hellfire[40] anti-tank guided missiles as its weapon systems. It does not mount weapons of 5.56mm to 7.62mm calibre.[41]

18. It is unlikely that an assault rifle (5.56mm or 7.62mm) was the weapon system used, as the inherent instability of the aerial platform would make accuracy difficult. Light machine guns are rarely pintle mounted[42] on airframes, thus the Panel finds it most likely that either a pintle mounted[43] medium machine gun or minigun was the weapon system used. These are commonly mounted on virtually all naval helicopters, and examples of pintle mounts are shown in figures A.58.11 and A.58.12.

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[31] It is possible that if rockets were used, as reported by an eyewitness, they missed the target and impacted in the sea. The Panel considers this unlikely due to the size of the vessel and the accuracy of close range rocket systems.

[32] The M134D 7.62mm Minigun manufactured by www.dillonaero.com. This system is in service with Saudi-Arabia-led coalition members: 1) Saudi Arabia and 2) Yemen. The system is also in service with the following members of the Combined Maritime Force: 1) Australia; 2) Canada; 3) Iraq; 4) Italy; 5) Jordan; 6) Republic of Korea; 7) Malaysia; 8) Norway; 9) Pakistan; 10) The Philippines; 12) Spain; 13) Thailand; 14) Turkey; 15) United Kingdom; and 16) United States.

[33] For example: 1) www.theguardian.com/world/2017/mar/17/somali-refugees-killed-helicopter-attack-off-yemen-coast; 2) http://www.independent.co.uk/news/world/middle-east/yemen-refugees-killed-helicopter-attack-on-ship-somali-injured-government-houthi-rebel-unhcr-women-a7634751.html; and 3) www.middleeasteye.net/news/dozens-somali-refugees-killed-yemen-helicopter-attacks-boat-1163813622.

[34] www.boeing.com/defense/ah-64-apache/.

[35] www.orbitalatk.com/defense-systems/armament-systems/automatic-cannons-chain-guns/docs/109493_10 M230LF Chain Gun.pdf.

[36] Air Intercept Missile. www.gd-ots.com/armament_systems/rw_hydra.html.

[37] Canadian Rocket Vehicle. www.magellan.aero/product/rockets/.

[38] Advanced Precision Kill Weapon System. www.baesystems.com/en-us/product/apkws-laser-guided-rocket.

[39] www.raytheon.com/capabilities/products/stinger/.

[40] www.lockheedmartin.com/content/dam/lockheed/data/mfc/pc/longbow-fcr-and-longbow-hellfire-missile/mfc-longbow-fcr-pc.pdf.

[41] 1) Major General Ahmed al-Asiri, during a visit to London on 30 March 2017, distanced Saudi Arabia as a potential perpetrator by claiming that Saudi helicopters "did not hold the ammunition found at the site". www.theguardian.com/world/2017/mar/31/saudi-arabia-yemen-military-campaign-general-ahmed-asiri-clashes-with-critics. 2) This statement was in relation to the initial reports that an AH64 Apache was the attack platform. At no point did Major General Ahmed al-Asiri specifically deny that the attack platform belonged to another member State of the Saudi Arabia-led coalition. Source: Attendee at the press conference.

[42] A pintle mount is a fixed mount that allows the gun to be freely traversed and/or elevated while keeping the gun in one fixed position.

[43] There are also Moveable Weapons Mounts (MWMS) that clamp to the doorframe of a helicopter.

Figure A.58.11
Example of a pintle mount (minigun)[44]

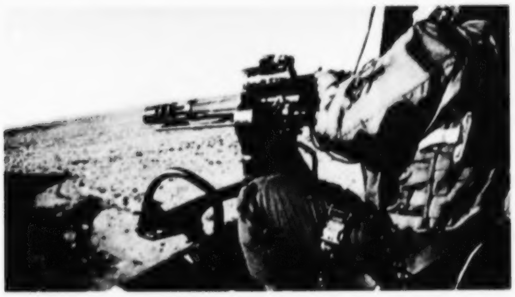
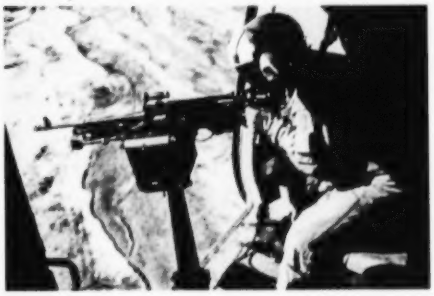


Figure A.58.12
Example of a pintle mount (7.62mm MMG)[45]



19. Based on the analysis above the Panel concludes that the damage caused in this attack was highly likely a result of rounds fired from a medium machine gun or minigun of 7.62mm calibre mounted on a helicopter. It is likely that this was a naval helicopter operating off a warship as: 1) the potential position of the targeted vessel in the Red Sea at the time of the attack means that it is highly unlikely that land based assets were used; and 2) there were reports of sightings of a large vessel in the immediate area at the time of the attack (see paragraph 3). The only party directly engaged in the conflict in Yemen that has this capability is the Saudi Arabia-led coalition, although many of the warships operating in the Red Sea as part of the Combined Maritime Forces (CMF), or independently, would also have armed naval air assets.

IV. Analysis of violations of international humanitarian law[46]

A. Violation of principle of distinction

20. IHL requires that a party carrying out an attack distinguish between civilians and fighters, and civilian objects and military objectives.[47] Parties are prohibited from directing attacks against civilians.[48] None of the parties to the conflict have advanced any claims that the vessel or its occupants had become legitimate military targets. The UAE state media has quoted an UAE official as saying that the UAE recognized the civilian nature of this boat prior to the incident.[49]

22. At the time of the incident, the vessel was carrying over 140 individuals, including women and children, and some of whom the UNHCR had classified as refugees.[50] The Panel has found no evidence as of yet to demonstrate that these individuals, or the vessel, had lost its immunity from direct attack at the time of the incident. Yet, the fact that the gunfire was repeatedly and directly aimed at the vessel and its passengers, demonstrate that this vessel and its occupants were indeed the direct target of the attack.

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[44] www.i.ytimg.com/vi/1IWjQnxlvwaI/maxresdefault.jpg. Included for illustrative purposes only.

[45] Credit: Taken by Technical Sergeant Dennis J. Henry Jr, USAF. © USAF. Released to public domain for fair use as ID 121129-F-PM120-898. Included for illustrative purposes only.

[46] Yemen and all members of the Saudi Arabia-led coalition who have contributed air assets to military operations in Yemen are parties to the Geneva Conventions of 1949, the Protocol Additional to the Geneva Conventions of 12 August 1949 and relating to the Protection of Victims of International Armed Conflicts (Additional Protocol I), and Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of Non-International Armed Conflicts (Additional Protocol II) of 8 June 1977. Customary IHL is binding on all parties to the conflict in Yemen. See www.icrc.org for the ratification status of treaties by parties to the conflict.

[47] Common Article 3 (CA3) to the Geneva Conventions of 1949 (GC 1949), Article 13 to the Additional Protocol II (AP II) and ICRC Customary IHL Rules 1 – 10.

[48] CA3 to GC 49, Article 13 to the AP II and ICRC Customary IHL Rules 1 and 7.

[49] www.wam.ae/en/details/1395302607973

[50] www.unhcr.org/news/press/2017/3/58cfe9824/unhcr-condemns-refugee-deaths-yemen-calls-inquiry.html

23. Thus, given that: 1) there is no demonstrable evidence that the vessel or the occupants had lost their civilian protection; and 2) the attack was clearly directed against the vessel and the occupants, there are very strong indications that the party that carried out the attack violated the IHL principles relating to distinction.

B. Violation of principles relation to precautions and proportionality

24. IHL requires that military commanders and those responsible for planning and executing decisions regarding attacks take all feasible precautions to avoid, and in any event to minimize, incidental loss of civilian life, injury to civilians and damage to civilian objects.[51] IHL also imposes an obligation on parties to the conflict to cancel or suspend an attack if it becomes clear that its attack is likely to cause excessive civilian damage.[52]

26. It is not clear if and what effective advance precautionary measures were taken to minimize civilian casualties or damage to civilian objects. It is highly likely that the vessel requested the boat to stop, and when it failed to do so, fired rockets in its direction. It is not clear if these rockets were fired as warning shots, or were intended to destroy the boat. However, evidence collected thus far demonstrates that the gunfire was directed deliberately at the occupants of the boat as demonstrated in the deaths of nearly one third of the vessel's passengers, and serious injuries to others.

27. The Panel has found readily available public information that demonstrates that the area around the Yemeni 'Red Sea' ports are regular migration routes for many migrants and refugees in the region. For example, 967 migrants from Ethiopia and Somalia arrived at the Red Sea coast in January 2017 and 1,135 in February 2017 by similar boats.[53] It is reasonable to presume that the parties engaged in the conflict in Yemen were aware of these migratory patterns and should have, thus, taken extra precautions to ensure that harm to these individuals was minimized.

28. Additionally, the fact that the vessel was headed away from Yemen, and was full of passengers, also significantly lessens the likelihood that the vessel was carrying weapons or fighters towards Yemen. Even if it was suspected that this specific vessel, or vessels of this size or nature, had previously engaged in arms smuggling into Yemen, the attack on the vessel, at the time and in circumstances where the boat was filled with passengers, including women and children, was extremely unlikely to be proportionate response. The Panel also highlights that even if the vessel were engaged in human smuggling at the time of the incident, [54] this would not absolve the parties involved in the conflict from their IHL obligations.

29. The Panel takes full cognizance of the recent maritime security incidents experienced by Saudi Arabia-led coalition and United States' naval vessels in the Strait of Bab al Mandab and Red Sea. Yet, this would not exempt any party to the conflict in Yemen, from their obligations under IHL to ensure that a target is a legitimate military objective prior to attack.

C. Violations of obligations relating to those wounded at sea

30. IHL requires that "whenever circumstances permit, and particularly after an engagement, each party to the conflict must, without delay, take all possible measures to search for, collect and evacuate the wounded, sick and shipwrecked without adverse distinction".[55] It also requires that those wounded at sea must receive medical care "to the fullest extent practicable" and "with the least possible delay".[56]

31. While there is some evidence to suggest that the party conducting the attack, desisted from further attacks, after the civilian nature of the vessel became evident,[57] there is no demonstrable evidence to suggest that they took

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[51] Rules 15 and 18 of the ICRC Customary Study

[52] Rule 19 of ICRC Customary Study

[53] Report of the Danish Refugee Council. www.reliefweb.int/sites/reliefweb.int/files/resources/RMMS Mixed Migration Monthly Summary February 2017.pdf

[54] The Panel understands that at least one crew-member was arrested for human smuggling following the incident

[55] Emphasis added. ICRC Customary Law Study, Rule 109. See also CA3 to the Geneva Conventions and Article 8 of AP II

[56] ICRC Customary Law Study, Rule 110. See also CA 3 to the Geneva Conventions and Articles 7 - 8 of AP II

[57] Some reports from eyewitnesses indicate that the firing stopped after they shone the lights of the vessel on themselves to show that they were civilians

any measures to assist the dead or wounded. There were no distress calls made on behalf of the vessel, nor was there any attempt to rescue the wounded. According to witnesses, it took the targeted vessel at least another six hours to reach a safe port with the wounded after the incident.

32. The Panel notes a report published in the UAE state news agency.[58] The statement is attributed to a UAE official who stated that the UAE "*clearly recognized the non-military nature of the boat which was carrying a large number of civilians… in the light of this information, the UAE Armed Forces adhered to the strict engagement rules preventing them from targeting any non-military targets*". This statement, if accurate, indicates that the UAE had naval assets with a surveillance capability in the area and thus either visual or radar visibility of the vessel around the time of, or prior to, the incident. It is therefore, highly unlikely, that UAE naval assets in the vicinity remained unaware of the incident.[59] It is thus possible that they would have been in a position to assist the wounded and even more likely that they could have evidence as to the perpetrators of the incident. The Panel has engaged with the UAE to obtain further information surrounding the event, including if any attempts were made to rescue those wounded at sea, but has not received a response.

V. Obligation to investigate the incident

33. UAE state media has reported that the UAE has launched an investigation into this incident. The article stated, "investigations indicate the possibility that the boat was targeted by the Houthi rebel forces operating in the region".[60] The Panel does not discount the possibility of another vessel being involved in the incident, but given the technical and forensic evidence documenting the almost certain involvement of air assets in this incident, it is highly unlikely that the Houthi-Saleh forces were responsible for this incident. This is because 1) Houthi-Saleh forces do not have the technical capacity to launch small arms attacks from the air, 2) there is no evidence, thus far, of external parties with such air assets, using these air assets in support of the Houthi-Saleh alliance; and 3) the only forces with such a capability are those opposing the Houthi-Saleh forces.

34. Given the allegations that the incident may amount to a war crime,[61] parties have an obligation under international humanitarian law to investigate.[62] This obligation is particularly incumbent upon the Government of Yemen. Saudi Arabia,[63] the UAE,[64] and the United States[65] have all independently denied their involvement in the incident. The Panel notes that other Member States also have the right to vest universal jurisdiction in their national courts over alleged war crimes.[66] There are no requirements that the identity of the offender be known to initiate an investigation, only that there is reliable and credible information that a violation may have happened.[67]

VI. Attribution of responsibility

35. The Panel finds that the perpetrators could have only come from Member States that have the capability to operate armed helicopters in the area, highly probably from naval assets. The Panel does not consider it a coincidence that three vessels were reportedly attacked on 16 and 17 March 2017 off the coast of Hudaydah, all allegedly being subject to helicopter gunfire or attacks from a naval vessel. A fourth boat also disappeared on 16 March 2017, with debris found subsequently and all ten on board were missing (see table 1.X.2).

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[58] http://wam.ae/en/details/1395302603973, http://gulfnews.com/news/uae/government/uae-denies-targeting-boat-carrying-somali-refugees-1.1997104, http://www.emiratesnews247.com/uae-not-target-somali-refugee-boat-off-coast-yemen/. This is the only statement from the UAE on the incident. The Panel is not aware if the UAE government has refuted this statement.

[59] The Panel notes recent media statements that the UAE is leading the operations on behalf of the Saudi Arabia-led coalition in and around Hudaydah port. http://english.alarabiya.net/en/News/gulf/2017/03/27/White-House-considering-potential-attack-to-liberate-al-Hudaydah-port.html

[60] www.wam.ae/en/details/1395302603973

[61] www.hrw.org/news/2017/03/26/yemen-attack-refugee-boat-likely-war-crime

[62] See in particular, Article 158 of the ICRC Customary IHL Study.

[63] http://uk.reuters.com/article/uk-yemen-security-refugees-idUKKBN171121?il=0

[64] www.wam.ae/en/details/1395302603973

[65] http://uk.reuters.com/article/uk-yemen-security-refugees-idUKKBN171121?il=0

[66] ICRC Customary IHL Rule 157

[67] Schmitt, M. "Investigating Violations of International Law in Armed Conflict", p.39 Volume 2 Harvard National Security Journal 2011

36. The Panel finds it is extremely unlikely that an unidentified naval vessel and a military aircraft could enter the Bab al-Mandab strait without triggering the radar systems of the naval entities that conduct surveillance of the strait. It is also extremely unlikely that such a military vessel and helicopter would be able to launch an assault without triggering the same radar systems. The Member States that have these capabilities in the area include those belonging to the Saudi Arabia led-coalition and the Combined Maritime Forces (CMF).

37. The Panel regrets that the UAE, the Saudi Arabia-led coalition, and the CMF have not cooperated with the Panel and responded to Panel requests for information. It also regrets that the Houthi-Saleh alliance, which has attributed responsibility for this attack to the Saudi Arabia-led coalition, denied the Panel access to Hudaydah to investigate this incident.[58]

E. Similar attacks

38. The Panel notes that this incident was only one of several incidents reported in that period that occurred off the coast of Hudaydah. Five of these incidents were recorded by the UN and Mwatana Organization. The following incidents in table A.58.2 are presented for information purposes only, as the Panel did not independently verify the same:

Table A.58.2
Incidents of fishing vessels (FV) being attacked

Ser	*Date*	*Coastal Location*	*Alleged Incident*	*Comments*
1	3 Feb 2017	Island off the coast of Hudaydah	A helicopter fired on the tents and boats of fishermen gathered on the Island.	Killed six and injuring seven individuals.
2	15 Mar 2017	Al-Durayhimi. (15 miles off Turfah Island)	A helicopter seen taking off from a warship, shot at the occupants of the FV without warning.	Killed two and injured five individuals. The injured remained afloat on the fishing boat at sea until late afternoon on 16 March 2017 when volunteers pulled them to a fishing port in Hudaydah. No notice was issued by any party prohibiting access to this fishing area.
3	15 Mar 2017	Al-Durayhimi. (15 miles off Turfah Island)	A FV was struck by a warship missile almost immediately after the above attack.	Killed five and injured three individuals. The occupants witnessed the previous boat (serial 2) being shot by a helicopter. The survivors stated that there were no indications that they had entered a restricted zone.

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[58] Letter dated 23 March 2017

Ser	Date	Coastal Location	Alleged Incident	Comments
4	16 Mar 2017	North of Hudaydah	Ten fishermen were reported as missing.	Parts of the boat were found burned 20 miles away from Al Teir Mount, west to the Eritrean waters.
5	8 Apr 2017	Off the coast of Hudaydah	Fishing boat was shot by helicopter gunfire.	Four killed.

VII. Humanitarian considerations

39. Immediately after the incident, most survivors were accommodated by the local authorities in the Hudaydah prison because, it was said that there was no other facility in Hudaydah where they could be accommodated. While the authorities confirmed to the UN that the survivors were not in detention in the true sense of the word, the survivors were not allowed to leave the prison. In May 2017, the authorities transferred the survivors from the Hudaydah Central Prison to the Immigration, Passports and Naturalization Authority detention center in Sana'a. As at November 2017, some of those affected in this incident returned to Somalia, while some others sought refugee status in Aden.

Appendix B to Annex 58: Air strike on civilian residential area in Faj Attan, Sana'a (25 August 2017)

I. Background

1. At approximately 02:00 hours on 25 August 2017, explosive ordnance dropped from a military aircraft detonated on several residential buildings in Faj Attan in Sana'a.[69] The explosions killed 16 individuals, including seven children and injured 17 other individuals, which included eight children.[70] The Saudi Arabia-led coalition claimed that the strike was a result of a "technical mistake". This was the third time that explosive ordnance has been delivered to this area, the delivery of which is attributed to the Saudi Arabia-led coalition, and that affected some of the same buildings.[71]

II. Technical Analysis

2. Post blast analysis of the image at figure B.58.1 to B.58.4 shows damage that is typically characteristic of the detonation of a significant quantity of high explosive, and is fully consistent with the blast damage resulting from air strikes using high explosive aircraft bombs.

Figure B.58.1

Post-blast damage[72]

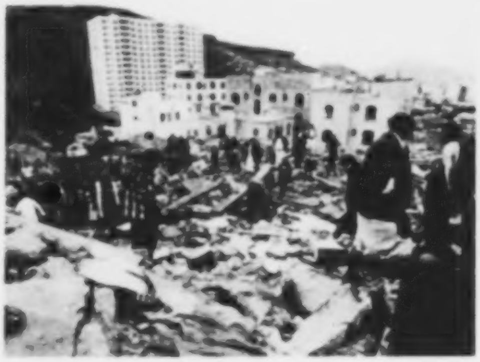
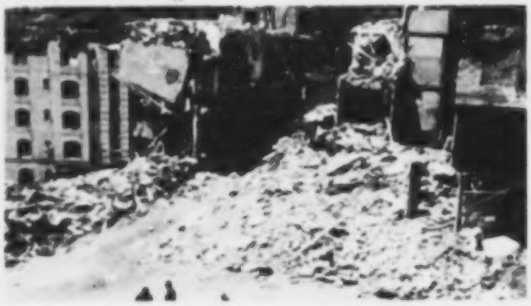


Figure B.58.2

Post-blast damage



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[69] Approximate location: 15°19'18.04"N, 44°10'42.4"E.

[70] Information provided by sources on the ground and verified through media reports. See "Yemen: Hiding Behind Coalition's Unlawful Attacks", https://www.hrw.org/news/2017/09/08/yemen-hiding-behind-coalitions-unlawful-attacks. In one incident, eight members of the same family died with the only survivor being a 6-year-old child. One of the residential buildings destroyed had no occupants, as they had left following a previous air strike on that building (see paragraph 2). The other building had four families, some of whom were displaced persons from Ta'izz.

[71] These strikes on 28 January 2016 and 20 April 2015 in Faj Attan documented by (S/2016/73), p.153 (recorded 25 deaths and 400 injuries in April 2015), and Human Rights Watch Report: "Yemen: War Crimes Not Addressed" recorded six deaths in January 2016.

[72] Photos contained in this case study were obtained from two confidential sources in the area.

Figure B.58.3
Post-blast damage

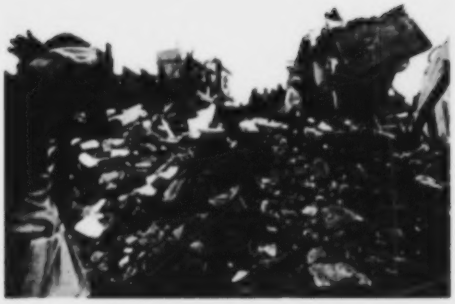
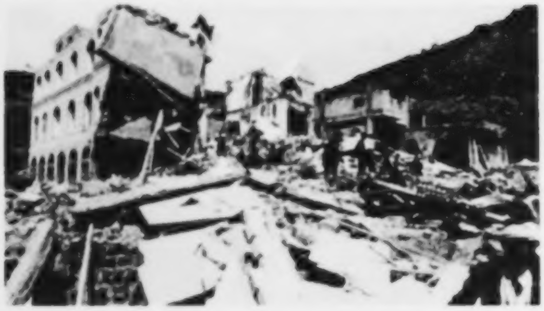


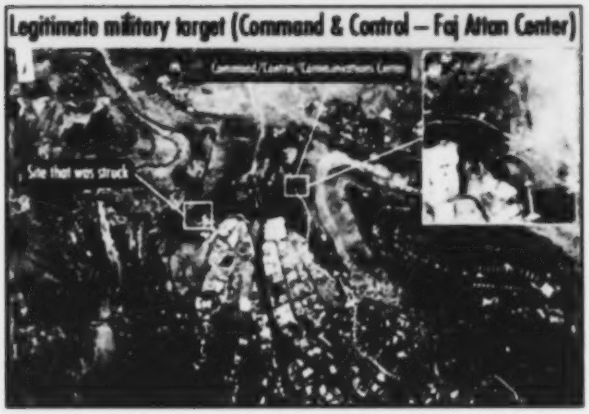
Figure B.58.4
Post-blast damage



III. Response of the Saudi Arabia-led coalition

3. Following the incident, the Saudi Arabia-led coalition spokesperson stated that a "*technical mistake*" had resulted in the incident, without providing further substantive or convincing details. He added that "*all procedures (related to operational planning and implementation) were correct … there was no direct targeting of the alleged house*".[75] The target point (TP) was an alleged Houthi-Saleh Command, Control and Communication (C3) centre at Faj Attan, Sana'a.[76] Media released imagery,[77] attributed to the Saudi Arabia-led coalition, provided further details on the TP (figure B.58.5). Panel imagery is at figure B.58.6 to B.58.9.

Figure B.58.5
Imagery attributed to the Saudi Arabia-led coalition[78]


Legitimate military target (Command & Control – Faj Attan Center)
Command/Control/Communications Centre
Site that was struck

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[75] http://www.arabnews.com/node/1151086/middle-east.

[76] Around the vicinity of 15°19'20.50"N, 44°10'53.08"E.

[77] http://www.arabnews.com/node/1151086/middle-east, https://uk.reuters.com/article/uk-yemen-security-strike-saudi-led/force-admits-strike-in-yemens-capital-hit-civilians-idUKKCN1B60L8. The Panel requested the Saudi Arabia-led coalition to confirm the authenticity of the image on September 2017, the Saudi Arabia-led coalition declined to respond. Letter from the Kingdom of Saudi Arabia dated 10 October 2017.

[78] http://www.arabnews.com/node/1151086/middle-east.

Figure B.58.6
Imagery on 18 August 2017[77]

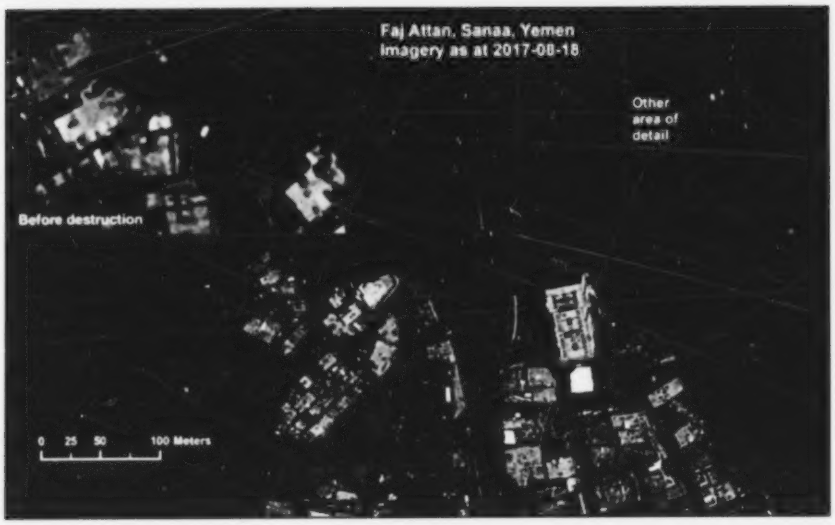
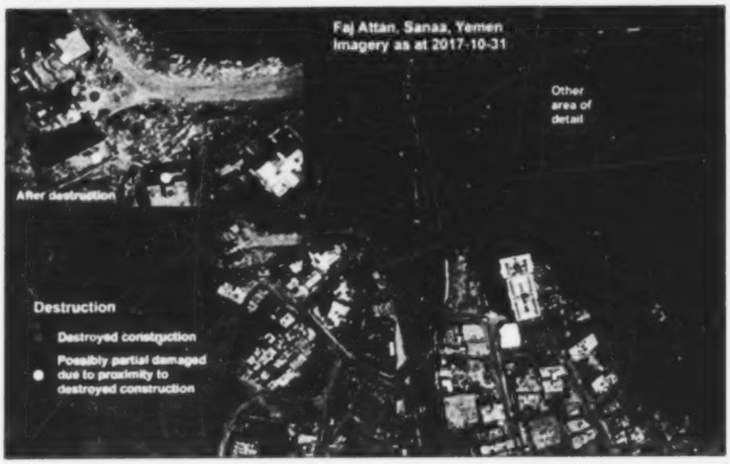

Faj Attan, Sanaa, Yemen
Imagery as at 2017-08-18
Other area of detail
Before destruction
0 25 50 100 Meters

Figure B.58.7
Imagery on 27 August 2017[78]


Faj Attan, Sanaa, Yemen
Imagery as at 2017-10-31
Other area of detail
After destruction
Destruction
Destroyed construction
Possibly partial damaged due to proximity to destroyed construction

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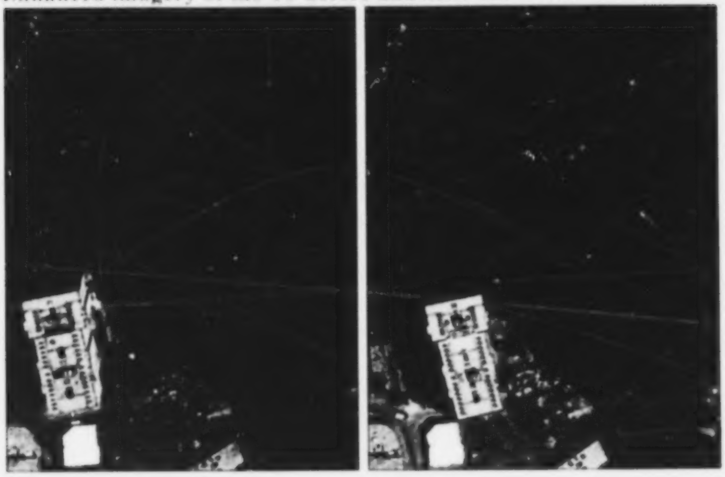
[77] Satellite imagery obtained by Panel

[78] Ibid

Figure B.58.8 and B.58.9

Enhanced imagery of the TP before and after the strike[79]



IV. Analysis of violations of international humanitarian law (IHL)

4. In the absence of a response from the Saudi Arabia-led coalition, the Panel analyzed the applicable law in relation to this incident based on facts gathered through its own independent investigations.[80]

5. The Panel finds that in respect of the stated "technical mistake":

(a) While it is possible for precision guided munitions to malfunction resulting in a target error, the Saudi Arabia-led coalition has refused to provide sufficient technical detail to enable such a judgement to be independently reached, reiterating that *"Coalition forces are committed to implementing international humanitarian law"* and that *"the coalition's activities fall outside the scope of that (Panel of Expert's) mandate"*.[81]

(b) The Panel finds that by refusing to respond the Saudi Arabia-led coalition is effectively denying the opportunity for an independent confirmation of the Saudi Arabia-led coalition's position that a "technical malfunction" resulted in the deaths of 17 civilians. An independent assessment is particularly relevant considering that the TP in satellite imagery demonstrates a broken-down wall, which remained undisturbed post-strike.

6. In the media, the Saudi Arabia-led coalition spokesperson, Colonel Turki al-Maliki, defended the strike as having *"a legitimate military target"*, which he said was a Houthi command and control centre (C3). Satellite imagery shows a "damaged man-made wall type structure with debris" at the TP[82] (see figures B.58.6 - B.58.9).

7. The Panel continues to welcome any information from the Saudi Arabia-led coalition that can be used to independently verify that the TP was a C3 centre and further detailed information on the nature of the technical mistake that resulted in the civilian deaths and damage to civilian infrastructure.

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[79] Source: Ibid. At the TP the presence of a damaged man-made wall type structure with debris is observed. The visual changes as seen before and after the air strikes for the TP is mainly due to satellite camera view angle difference when the images were taken, which can be observed from the different appearance of the high-rise building in the images. There are no major changes observed for the TP from the two images.

[80] This included photos and videos obtained from three sources, multiple open source imagery, statements of five sources, which included eyewitnesses, satellite imagery, and other documentation including death certificates.

[81] Letter to Panel dated 10 October 2017.

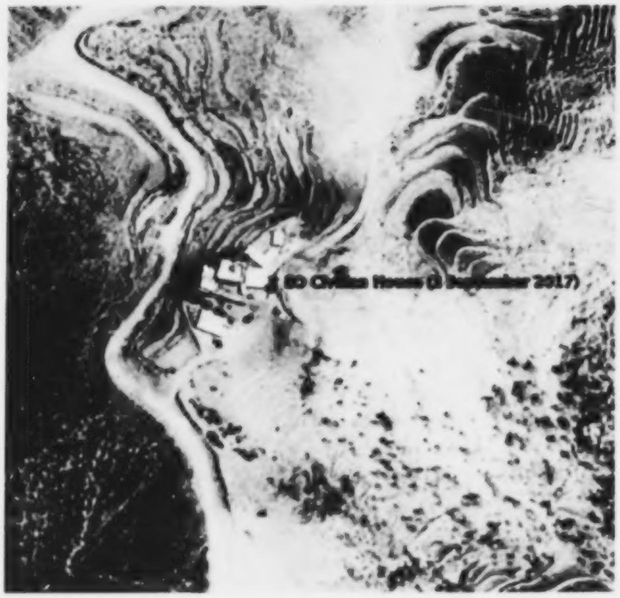
[82] UN.

Appendix C to Annex 58: Air strike on residential buildings (al-Maqadhi house) in Farah Village, Washa, Hajjah (2 September 2017)

I. Background

1. At approximately 13:30 hours on 2 September 2017, two items of explosive ordnance dropped from a military aircraft detonated within three minutes of each other. The EO hit several residential buildings of the al-Maqadhi tribe[83] in Washa, Hijjah Governorate.[84] The first explosion affected residential buildings, but did not cause any casualties. The second explosion killed two women and one child and injured 13 others, which included one woman and ten young children. Witnesses informed the Panel that the reason that 14 of the 16 affected were women and children was because after the first strike, the men and the older children managed to flee to safety. The second strike did not leave enough time for the women and the young children to escape. The casualties were also high because 2 September 2017 was the second day of Eid - the annual day of gathering for the al- Maqadhi tribe for celebrations and resolution of tribal conflicts.

Figure C.58.1
Remote location of the al-Maqadhi houses[85]



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[83] The residents in this complex belong to the Al Maqhdi tribe. They are led by Sheif Mohamah Yahyah Maqhdi and Sheik Ali Yahyah Maqhdi. They are said to be aligned to the legitimate Government.

[84] At approximately 16°19'39.7"N, 43°25'10.1"E.

[85] Google Earth Pro imagery of 29 January 2017.

II. Technical analysis of physical evidence

2. The imagery at figure C.58.2 to C.58.5 shows damage that is highly indicative of the detonation of precision-guided aircraft bombs on structures.

Figure C.58.2[illegible]

Paveway tail fin

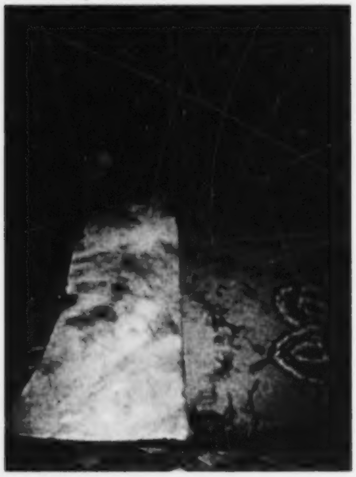


Figure C.58.3

Crater al-Maqadhi houses (first strike)

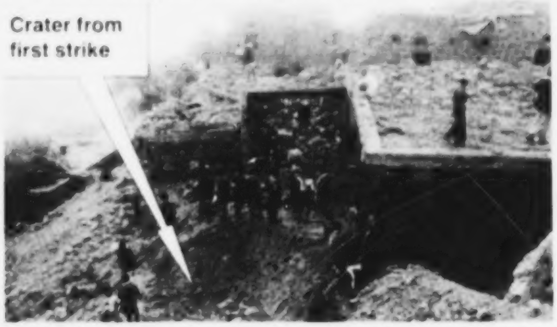


Figure C.58.4

Damage to al-Maqadhi houses (second strike)

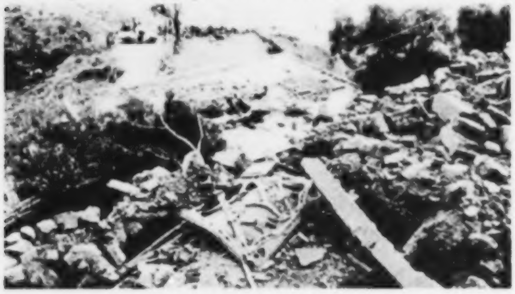
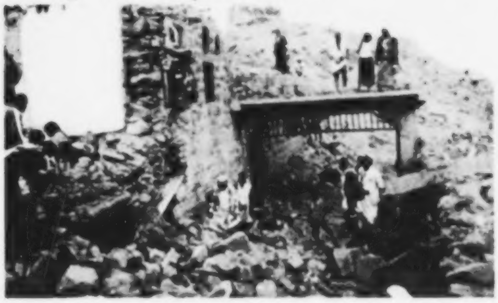


Figure C.58.5

Damage to al-Maqadhi houses



3. The Panel finds that:

(a) Technical analysis of imagery (figure C.58.2) of the fragment recovered from the explosion indicates that one explosive device was fitted with a Paveway guidance unit for a high explosive (HE) aircraft bomb. The fragment is the remnants of the rear fin from a Paveway guidance unit;

(b) Photogrammetry of the imagery at figure C.58.3 estimates that the crater diameter was 3.4 m in sandy soil, and thus from crater analysis the explosive mass is estimated to be in the region of 940kg (TNT equivalent). This equates to the explosive content of a Mark 84 2000lb aircraft bomb;

(c) The only military entity operating the type of aircraft in the area that has the capability to aerially deliver such precision-guided munitions is the Saudi Arabia-led coalition; and

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[illegible] All images in this annex were obtained from residents in the complex or human rights investigators who visited in the aftermath

(d) The Panel is concerned that the damage to the top of the building shown in figure C.58.4 may be an entry points (hole) initially caused by the kinetic energy from a third unexploded aircraft bombs. These bombs have hardened weapons grade steel cases, which would have easily penetrated the thin-skinned roofs before it should have detonated on the floor of the building. The lack of damage the rest of the building is an indicator that there may be an unexploded bomb (UXO) under the floor of that building. The Saudi Arabia-led coalition has been asked if they would respond on humanitarian grounds to confirm, or otherwise, whether a third aircraft bomb was used in this strike.

IV. Response of the Saudi Arabia-led coalition

4. The Saudi Arabia-led coalition was provided the opportunity to respond, but chose not to citing that "the coalition's activities" fall outside the mandate of the Panel of Experts.[87]

V. Analysis of violations of international humanitarian law (IHL)

5. In the absence of a response from the Saudi Arabia-led coalition, the Panel analysed the applicable law in relation to this incident based on facts obtained during its own independent investigations.[88] The Panel finds that:

(a) Based on the use of precision-guided weapons, the remote location of the target site, and the repeated strikes, the al-Maqadhi residential complex was almost certainly the intended target of the two air strikes;

(b) The Panel found no explanation in the public domain as to why this residential area, which is *prima facie* a civilian object immune from direct attack, was considered by the Saudi Arabia-led coalition to be a legitimate military objective;

(c) The Panel also found no demonstrable evidence that the occupants of the house, who as civilians were prima facie immune from attack, had lost their civilian protection;

(d) While the Panel is not convinced that the Saudi Arabia-led coalition directed its air strike against a legitimate military target,[89] even if it had, the Panel finds that there are serious concerns whether it respected IHL principles of proportionality and precautions in attack given that 14 of the 16 affected were women and children. Any proportionality assessment should have taken into consideration that given the celebrations of the day there was a high likelihood that civilians, including women and children would be in the complex; and

(e) The cumulative effect on civilians and the civilian object also demonstrates that if precautionary measures were taken, they were largely inadequate and ineffective. If precautionary measures were not taken, it is incumbent on the Saudi Arabia-led coalition to demonstrate why in those circumstances, such precautionary measures were not feasible.[90]

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[87] Letter to Panel dated 10 October 2017.

[88] This included photographs obtained from two sources, statements of four sources, and an investigation report issued by the National Commission of Inquiry of Yemen (document with Panel).

[89] See Article 13 (1) and (2) of *Protocol II Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of Non-International Armed Conflicts* (AP II) and Article 13 (3) on the loss of protection. See also CIHLR 1, 5 and 6. *Prosecutor v Dario Kordic and Mario Cerkez* (2005), para. 54.

[90] For example, if the target were some of the male occupants or guests, it is possible that they could have been targeted outside this highly residential area.

Appendix D to Annex 58: Air Strike on a night market, Sa'dah (1 November 2017)

I. Background to Events

1. At approximately 02:00 hours on 1 November 2017, explosive ordnance dropped from a military aircraft detonated in or close to a hotel in the busy night market in Saher district of Sa'dah governorate.[91] The explosion resulted in 31 deaths and 26 injured in Sahar district, Sa'dah governorate, and of these at least eight were children.[92]

2. The Saudi Arabia-led coalition admitted striking the market and stated that *"the target was the gathering point for some armed Houthi militants"*.[93]

3. One witness informed the Panel, that while there is was a regular presence of two vehicles belonging to Houthi fighters, approximately 1,000m from the market, all sources confirmed that the market was civilian in nature, composing of hotels, restaurants, and coffee shops. The hotel that was affected by the airstrike was identified as an overnight lodging used by Qat farmers and their families who regularly visited the market.

II. Technical Analysis

4. The imagery at figure D.58.1 to D.58.2 shows damage that is highly indicative of the detonation of precision-guided aircraft bombs.

Figure D.58.1

Post strike damage in outer night market area[94]

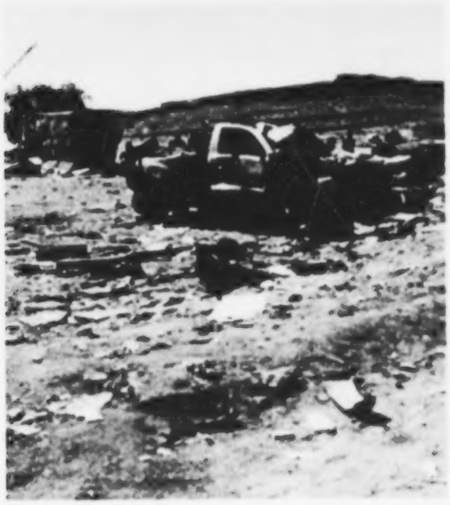
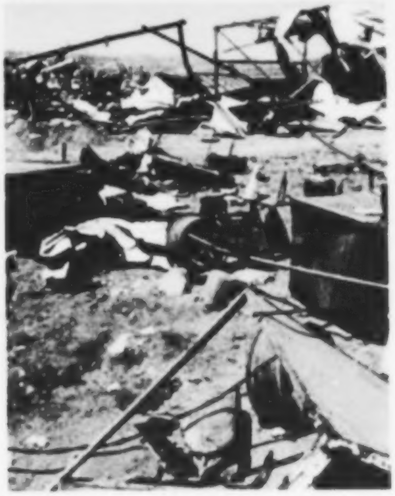


Figure D.58.2

Post strike damage in outer night market area[95]



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[91] United Nations. See https://reliefweb.int/report/yemen/statement-humanitarian-coordinator-yemen-jamie-mcgoldrick-continued-violence-affecting.

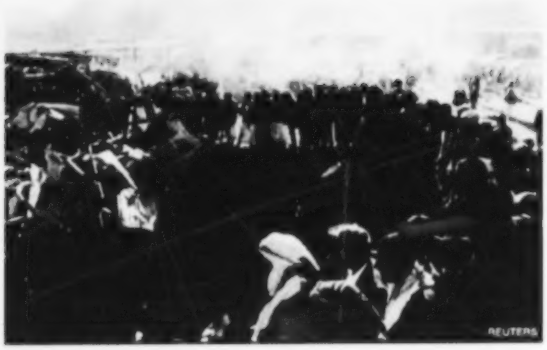
[92] A local hospital informed the Panel that it received 29 dead and 26 injured: 2 children were recorded as having died and six others were injured. Three bodies were burnt beyond recognition.

[93] The Saudi Arabia-led coalition says that the strike hit a legitimate target in Yemen: see https://www.reuters.com/article/us-saudi-yemen/saudi-led-coalition-says-strike-hit-a-legitimate-target-in-yemen-idUSKBN1D40OJ. Initial statement on the incident: "Coalition to Restore Legitimate Government of Yemen: We closely follow up media outlets' allegations on targeting market in Sa'dah" http://www.spa.gov.sa/viewfullstory.php?lang=enandnewsid=1683448.

[94] Confidential source.

[95] Confidential source.

Figure D.58.3
EO impact crater[96]



3. The Panel finds from photogrammetry of the imagery at figure D.58.3 that the crater diameter was approximately 3.6 m in sandy soil, and thus from crater analysis the explosive mass is estimated to be in the region of 940kg (TNT equivalent). This equates to the explosive content of a Mark 84 2,000lb aircraft bomb.

4. The only military entity operating the type of aircraft in the area that has the capability to aerially deliver such precision-guided munitions is the Saudi Arabia-led coalition.

III. Response of the Saudi Arabia-led coalition

5. The Saudi-led coalition accepted responsibility for this airstrike, but justified it as a "gathering point" for Houthi fighters (see paragraph 2 above).

IV. Analysis of violations of international humanitarian law (IHL)

6. In the absence of a timely response from the Saudi Arabia-led coalition to the Panel, the Panel analyzed the applicable law in relation to this incident based on facts obtained during its own independent investigations.[97]

7. It is possible that some individual fighters may have been present amongst civilians, as Houthi fighters frequent the market to buy Qat and other commodities. However, there was no information on the public domain or from witnesses that supported a finding that the market was a "gathering point" for Houthi fighters at the time of the air strike, but a gathering point for civilians.

8. Even if the Saudi Arabia-led coalition targeted Houthi fighters, the Panel is not convinced that the Saudi Arabia-led coalition respected relevant principles of IHL, including those relating to proportionality,[98] for the following reasons:

(a) There is no evidence to support a finding that:

(i) There were Houthi-Saleh fighters in the market; and

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[96] Credit: Naif Rahma, Reuters.

[97] This included photographs obtained from two sources, interviews with three sources, and a report issued by a local hospital. Open source images were verified by witnesses. Information from the UN.

[98] Under IHL "launching an attack which may be expected to cause incidental loss of civilian life, injury to civilians, damage to civilian objects, or a combination thereof, *which would be excessive in relation to the concrete and direct military advantage anticipated,* is prohibited". (Emphasis added). See CIHL R.14.

(ii) Those fighters were of sufficient military value to justify collateral damage to the civilians and civilian objects and consequently, the Saudi Arabia-led coalition met its obligations relating to proportionality.

(b) The Saudi Arabia-led coalition did not provide the Panel with information that demonstrated that a significant number of those who died or injured were Houthi fighters or that the effects on civilians and civilian objects were not excessive in relation to the concrete and direct military advantage anticipated.

(c) This likelihood of excessive harm to civilians and civilian objects could have reasonably been anticipated in the circumstances because:

(i) The market place was a civilian object *prima facie* immune from attack;

(ii) It was also a civilian gathering point;

(iii) The market was functional on the night of the air strike; and

(iv) The timing of the attack would be such as to cause a disproportionately high number of civilian causalities given that it was a night market.

9. IHL requires military commanders and those responsible for planning and executing decisions regarding attacks to take all feasible precautions to avoid, and in any event to minimize, incidental loss of civilian life, injury to civilians and damage to civilian objects. The fact that the Saudi Arabia-led coalition knew that this was a market place and thus a civilian location where there would ordinarily be a congregation of civilians, meant that they should have been particularly vigilant when undertaking a proportionality assessment and making use of all feasible precautionary measures to minimize the incidental loss of civilian life and damage to civilian property.[illegible] It is reasonable to expect that the Saudi Arabia-led coalition should have taken into account these factors given that the fact that information that the target location was a civilian night market was readily available.[illegible]

10. The Panel remains concerned that the Saudi Arabia-led coalition continues to justify air strikes in civilian gathering areas by referring to it as "Houthi gatherings", without providing any further information that may assist an independent verification if the relevant IHL principles were met (see also S/2017/81 for Khamees Mustaba market).

[illegible] See commentary to CIHL R 14, and the United States Department of Defense Law of War Manual (2015), p 1033, which requires combatants to assess in good faith the information that is available to them when conducting attacks.

[illegible] See CIHL R 14.

Annex 59: Joint Incident Assessment Team findings and recommendations

1. The establishment of JIAT is a positive step given that it is possibly the only entity outside the Joint Force Command that has access to sensitive information on military operations. Yet, the Panel finds that there is a lack of transparency in the implementation of JIAT recommendations, which may undermine JIAT's credibility.

2. The JIAT found that of the 43 air strikes that were attributed to the Saudi Arabia-led coalition[1]:

(a) 11 air strikes did not take place against the identified targets;

(b) In 30 incidents, the Saudi Arabia-led coalition did not violate IHL; and

(d) In two incidents, the Saudi Arabia-led coalition violated IHL.

3. The Panel has, based on public information and its investigations, observed that there needs to be a further examination of some of these cases to eliminate any doubts relating to violations of IHL by the Saudi Arabia-led coalition. In this context, the Panel highlights the different findings of the Panel and JIAT and the contradictions between statements of the Saudi Arabia-led coalition and the JIAT on the Saudi Arabia-led coalition's responsibility and rationale for some air strikes.

Table X.1
JIAT and Panel findings on the same investigations

Date	*Location*	*JIAT findings*	*Panel findings*
15 Mar 2016	Khamis Market, Hijjah	Intelligence indicated a large gathering of Houthi recruits near the market. Market has no activity except on Thursday. Strike was on Tuesday. The gathering was 34 km from the Saudi border.	This Panel concluded in S/2016/81 that the market was active on that date and while it was possible that some fighters (10) were present, it was unconvinced that IHL on proportionality and precautionary measures were respected.
9 Aug 2016	Al Aqil Food factory, Sana'a.	The factory was not targeted on 9 August 2016. The closest target point was 7 km from the factory.	The Panel concluded in S/2016/81 that an HE bomb delivered from air caused the damage. It concluded that the only known entity capable of carrying out the air strike was the Saudi Arabia-led coalition.
15 Aug 2016	Abs Hospital, Hajjah	Pilot followed a vehicle, which had left a site of an air strike and struck it next to a building that does not bear any marks that would indicate before the strike that it is a hospital. The vehicle was a legitimate military target.	The Panel concluded in S/2016/81 that there were 43 causalities, while JIAT concluded 20. The Panel concluded that the vehicle was a civilian vehicle carrying a wounded civilian. MSF shared hospital coordinates and coalition was aware of the hospital's location and that it violated IHL.
15 and 22 Sep 2016	Alsonidar Complex	Between 4 – 23 September 2016, six ballistic missiles were launched towards Saudi Arabia from northern Sana'a. Three trucks and an armed military vehicle entered factory complex. Targeted complex because of continued use of the complex "in supporting the war effort".	The coalition spokesperson stated that the complex "is now becoming a military manufacturing unit specialized in producing pipes Houthis use to assemble local-made missiles…"[3] The Panel reviewed evidence but could not find evidence to support the conclusions of JIAT.

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[1] The press released related to the 43 air strikes were provided by JIAT to the Panel.

[2] JIAT findings are summarized in this annex. Full press releases have been shared by JIAT with the Panel for 41 of the 43 cases.

[3] http://www.reuters.com/article/us-yemen-security-idUSKCN11I27Y.

Date	*Location*	*JIAT findings*	*Panel findings*
24 Sep 2016	Ibb residential house	The actual target, a military HQ, was 1070 meters from the residential complex. The coalition did not strike the residential complex.	The Panel concluded in S/2016/81 that the factory complex was targeted using a precision-guided HE aircraft bomb and only party to the conflict with the known capability to deliver precision guided HE aircraft bombs is the Saudi Arabia-led coalition.
8 Oct 2016	Funeral Hall, Sana'a	The Air Operations Centre in Yemen did not operate in accordance with Coalition command and control regulations, nor rules of engagement and procedures. The coalition aircraft wrongly targeted the location, resulting in civilian deaths and injuries.	The Panel found in S/2016/81 that the Saudi Arabia-led coalition violated several principles of IHL, including those protecting hors de combat, in this double tap attack. The Panel has requested, but not received, information on the measures taken to implement JIAT's recommendations.

Table X.2

JIAT and Saudi Arabia-led coalition's findings on the same incidents

Date	*Location*	*JIAT findings*	*Coalition statements in the immediate aftermath of the incident*
30 Aug 2015	Al-Sham Water Factory	The Saudi Arabia-led coalition executed a (close air support mission), on an anti-air artillery (AAA), stationed in proximity to the factory. Due to weather effect and clouds over the target, the bomb deflected from its path and hit warehouse of the factory, destroying it and resulting in some deaths and injuries.	On 30 August 2015, the "Coalition spokesman Brigadier General Ahmed Asseri denied the strike had hit a civilian target, saying it was a location used by the Houthis to make IEDs and to train African migrants whom they had forced to take up arms."[4]
6 Oct 2015	Wedding, Dhammar	There were no air operations on the said date, but on 7 October 2015, the Saudi Arabia-led coalition targeted a group of armed vehicles in the same area.	On 08 Oct 2015, the Saudi Arabia-led coalition stated that it did not conduct any air strikes in Dammar.[5]
26 Oct 2015	Haydan Hospital, Sa'dah	The building was a medical facility used as a military shelter. MSF should have been informed of the withdrawal of protection.	The coalition denied hitting the hospital.[6]
2 Dec 2015	Mobile Clinic, Ta'izz	High value military target close to clinic. The clinic should have been removed "so as not to be expose it to any incidental effects."	MSF informed Saudi Arabia of the location. One hour before the strike, Saudi Arabia stated, "be sure that we will not approach those locations and your team has to stay there for the time being".[7]

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[4] https://www.reuters.com/article/us-yemen-security-saudi-led-coalition-air-strike-kills-36-yemeni-civilians-residents-idUSKCN0QZ09P20150830

[5] "Death toll from air strike on Yemen wedding party rises above 130: medics" at https://www.reuters.com/article/us-yemen-security-death-toll-from-air-strike-on-yemen-wedding-party-rises-above-130-medics-idUSKCN0RT0X120150929, and http://www.aljazeera.com/news/2015/10/deadly-air-strike-reported-yemen-wedding-party-151008073704528.html

http://www.gulf-times.com/story/457994/Air-strike-kills-13-at-Yemen-wedding-coalition-den

[6] "Yemeni MSF hospital bombed, Saudi-led coalition denies responsibility" at http://www.reuters.com/article/us-yemen-security/yemeni-msf-hospital-bombed-saudi-led-coalition-denies-responsibility-idUSKCN0SL0VK20151027

[7] MSF, "MSF incident report: airstrike on the Ta'izz health clinic, Houban District, Taiz City, Yemen, 2 December 2015" at https://reliefweb.int/sites/reliefweb.int/files/resources/Yemen_Taiz_investigation_summary_final.pdf

Date	*Location*	*JIAT findings*	*Coalition statements in the immediate aftermath of the incident*
13 Aug 2016	Al Fadhil school, Sa'dah	The school was not targeted. The closest targets that day were "warehouses and weapons' storage" located 10 km from the school.	On 14 August 2016, the Saudi Arabia-led coalition spokesman stated that the strikes hit a Houthi training camp, killing militia fighters, including the leader Yehya Munassar Abu Rabua: *"The site that was bombed ... is a major training camp for militia ... Why would children be at a training camp?" ... "When jets target training camps, they cannot distinguish between ages"*, and that Yemen's government had confirmed to the coalition that *"there is no school in this area"*.[7] UNICEF confirmed that 7 children were killed and 21 injured, who were studying at the school during the strike.[8] The other recorded strike that day was a house of a head of a school.

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[7] "Saudi-led coalition strikes militant training camp in Yemen", https://www.saudiembassy.net/press-release/saudi-led-coalition-strikes-militant-training-camp-yemen; "At least 10 children have been killed in an airstrike on school in Yemen" at http://www.thejournal.ie/yemen-airstrike-children-killed-2927896-Aug2016/; "Coalition says strike hit militant training camp in Yemen" http://gulfnews.com/news/gulf/yemen/coalition-says-strike-hit-militant-training-camp-in-yemen-1.1878902; "Saudi-led coalition strikes militant training camp in Yemen" https://www.saudiembassy.net/press-release/saudi-led-coalition-strikes-militant-training-camp-yemen.

[8] "UNICEF Statement on the killings of children in Sa'dah, Northern Yemen" at https://www.unicef.org/media/media_92099.html.

Annex 60: Case studies of airstrikes documented by the Panel in 2016 and the JIAT findings

1. The Panel takes note of the Joint Incident Assessment Team (JIAT) findings that differ from Panel findings in 2016 on the case study summaries contained in serials 5, 7, 8, and 9 of S/2017/81. The Panel, after evaluating the information placed by the JIAT in the public domain, attaches the full case studies of those incidents in the following appendices to enable an independent assessment of the IHL violations attributed to the Saudi Arabia-led coalition. The case studies were not included in S/2017/81 to maintain brevity of that report. After careful consideration of the findings of JIAT, the Panel continues to find that:

(a) The Saudi Arabia-led coalition was responsible for the following air strikes; and

(b) The evidence strongly demonstrates that the Saudi Arabia-led coalition violated IHL.

Table 60.1

Air strikes affecting civilians and civilian infrastructure documented in 2016

Appx	Date	Location	Type of [illegible]	Civilian fatalities	Civilian injured	Effect on civilian objects
A	9 Aug 2016	Nahda, Sana'a	High Explosive (HE) aircraft bomb	10	15	Snack factory destroyed
B	13 Sep 2016	Ban al-Hareth, Sana'a	Mk 82 HE bomb Paveway IV	0	0	Alsonidar factory complex severely damaged
C	22 Sep 2016	Ban al-Hareth, Sana'a	GBU-24 Paveway IV	0	0	Alsonidar factory complex severely damaged
D	24 Sep 2016	Mafraq Jiblah, Ibb	Mk 82 HE bomb Paveway	9	7	Civilian house destroyed

2. The Panel will also provide in brief its findings in two further investigations in 2016 that were also not enclosed in full in S/2017/81 to enable full disclosure of the Panel's findings and to assist further independent investigations into these incidents.

Table 60.2

Air strikes affecting civilians and civilian infrastructure documented in 2016

Appx	Date	Location	Type of [illegible]	Civilian fatalities	Civilian injured	Effect on civilian objects
E	25 Mar 2016	T'baisha, Ta'izz	Not confirmed	10	0	Civilian house destroyed
F	25 May 2016	Mahala, Lahj	Mk 82 HE bomb Paveway	0	2	Water bottling factory destroyed

Appendix A to Annex 60: Al Aqil Factories, Nahda District, Sana'a (Food Snack Factories) (9 August 2016)

1. The JIAT concluded that the Saudi Arabia-led coalition did not target the Al Aqil factory complex.[1]

2. The Panel finds that a technical analysis of evidence demonstrates beyond a reasonable doubt that the factory complex was targeted using a precision-guided high explosive (HE) aircraft bomb. The only party to the conflict with the known capability to deliver such precision guided HE aircraft bombs is the Saudi Arabia-led coalition. This case study contains the Panel's findings of 2016.

I. Background

3. On 9 August 2016, at approximately 10:00 hours, explosive ordnance dropped from a military aircraft detonated on a factory complex that produces food snacks in Nahda District, Sana'a.[2] The explosion and the resultant fire killed ten civilians and injured 13, and destroyed the factory and the production equipment.[3] There was a military maintenance centre adjacent to the factory (figure A.60.1), yet it was not affected by air strikes that day.[4]

4. On 19 January 2016, another factory in the same complex was damaged by an air strike (see image A.60.3).[5]

Figure A.60.1

Locations of the military maintenance camp (red outline) and the factory complex (green outline)

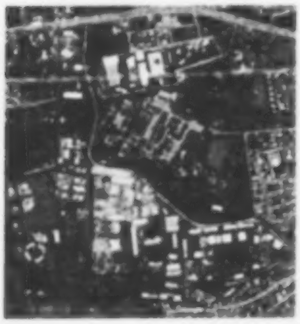
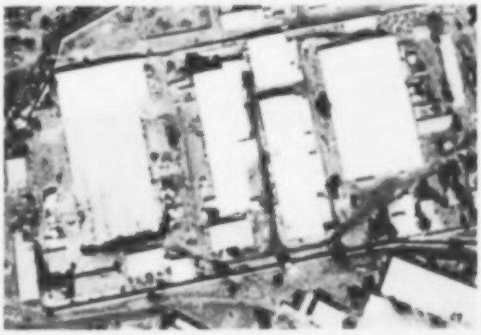


Figure A.60.2

Pre-air strike factory complex (10 January 2016)



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[1] Press release with Panel.

[2] Around 15°21'42.0"N, 44°11'41.9"E.

[3] For example, see video at "Saudi-Led Coalition Resumes Bombing of Yemeni Capital After Talks Collapse" at [illegible]

[4] Google Earth.

[5] Owner stated that a subsidiary branch of the factory in Damrah was also hit by air strikes on 23 January 2016.

Figure A.60.3
First strike damage (29 February 2016)

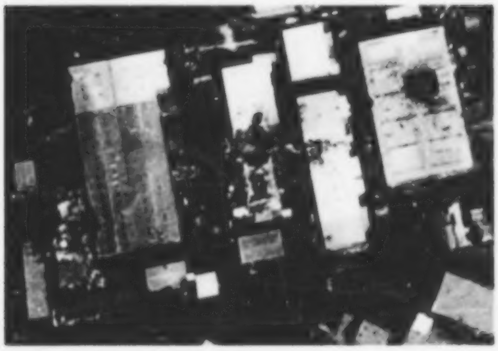
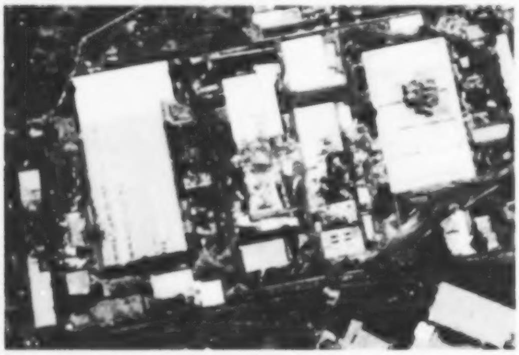


Figure A.60.4
Second strike damage (Post August 2016)



II. Technical analysis of physical evidence

5. The damage to the factory was indicative of that caused by the detonation of a large quantity of high explosive. There was clear evidence of the destruction of structural components of the building that equate to the damage to be expected from the shockwave of an explosion. The entry points (holes) (figures A.60.5 and A.60.6) and the damage to the concrete floor at the impact point of the explosive ordnance were both caused by the kinetic energy from the EO, which have hardened weapons grade steel cases. The aircraft bombs easily penetrated the thin-skinned roofs before detonating on the concrete floor of the factories.

Figure A.60.5
Damage at impact point of EO[illegible]

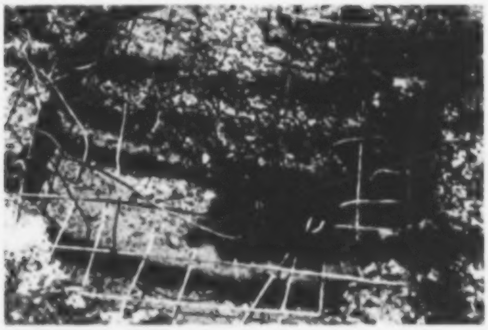
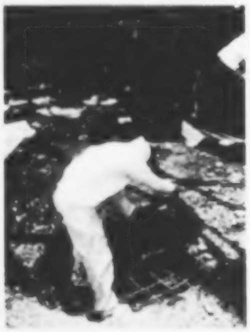


Figure A.60.6
Damage at impact point of EO



6. The only party to the conflict with the known capability to deliver precision-guided HE aircraft bombs is the Saudi Arabia-led coalition.

III. Response of the Saudi Arabia-led coalition

7. On 8 December 2016, the JIAT denied the involvement of the Saudi Arabia-led coalition. It stated:

> "The Embassy of the Kingdom of Sweden has claimed that the food factory of Swedish honorary consul Mr. Abdullah Ahmed al-Aqil in (Sana'a) city suffered aerial bombardment on 9 August 2016 resulting in the death of 16 workers. Having investigated the facts and circumstances of the claim, (JIAT) found that, the coalition forces have struck two targets that day: the first target is a telecommunication antenna used

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[illegible] All imagery was obtained from individuals working in the factory.

> for military purposes_in (Ayban) mountain, western (Sana'a), 7 km away from the subject factory. The second target is a cave used for military purposes in eastern (al-Nahdyan) mountain, southern Sana'a, 10 kilometers away from the subject factory. Thus, the said two locations are considered legitimate military targets according to the rules of engagement and the rules of the international humanitarian law. In light of that, (JIAT) did not find evidence that the collation forces struck the said factory. Thus, the coalition forces are not responsible for the alleged attack on the factory".[7]

8. The Panel has not yet received a response to a request for information made to the Saudi Arabia-led coalition.[8]

IV. Analysis of violations of IHL

9. The Panel finds that the Saudi Arabia-led coalition was responsible for this air strike (paragraphs 5 and 6), and that the use of precision-guided weapons demonstrates that the factory complex was the intended target of these air strikes. In 2016, the Panel found that there was no evidence to support a finding that the complex had become a legitimate military objective.

10. Thus, the Panel concludes that the factory complex was *prima facie* a civilian object, immune from direct attack and that individuals within the factory had not lost their civilian protection.[9] Therefore, unless the Saudi Arabia-led coalition provides information to the contrary, evidence strongly demonstrates that the Saudi Arabia-led coalition violated IHL principles, including those relating to distinction, proportionality,[10] and precautions in attack.[11]

11. The Panel will continue to welcome a clarification from the Saudi Arabia-led coalition.

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[7] Press statement with Panel. Minor spelling mistakes were corrected. See also Saudi Arabia coalition spokesperson's response here: "14 killed at food factory in first Saudi strikes on Yemen in three months" at http://www.middleeasteye.net/news/14-dead-saudi-led-strikes-yemen-factory-medics-1702399607.

[8] Letter dated 21 November 2016.

[9] IHL requires that the civilian population, as well as individual civilians, shall not be the object of attack. Article 13(2) of the Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of Non-International Armed Conflicts (Protocol II), 8 June 1977 (AP II) and ICRC Customary International Humanitarian Law Study Rule (CIHLR) 1.

[10] An attack is disproportionate if it may be expected to cause incidental loss of civilian life, injury to civilians, damage to civilian objects, or a combination thereof, which would be excessive in relation to the concrete and direct military advantage anticipated.

[11] IHL requires that all feasible precautions must be taken to avoid, and in any event to minimize, incidental loss of civilian life, injury to civilians and damage to civilian objects. Article 13(1) of AP II, CIHLR 15. This obligation is particularly incumbent on those who plan and decide on the air strikes. See William Boothby, "The Law of Targeting", OUP (2012), p. 72.

Appendix B to Annex 60: Alsonidar Factory complex, Ban al-Hareth District, Sana (13 September 2016)

1. In November 2017, the JIAT provided the following justification in November 2017 for the two air strikes. It found that:

> "... during 4 – 23 September 2016, six ballistic missiles were launched towards Saudi Arabia from northern Sana'a. The coalition forces carried out Aerial Surveillance and Reconnaissance Missions on these areas. A convoy consist(ing) of three trucks accompanied by an armed military vehicle were spotted and tracked until they entered Al Senidar (sic) factory complex located north of Sana'a city. Coalition forces targeted the warehouses inside the complex on 12 September 2016 and were targeted again on 22 September 2016 because of continued use of the complex in supporting the war effort, which is considered a legitimate military target."[12]

2. The Panel reexamined and solicited further evidence[13] and continues to solicit further information from the Saudi Arabia-led coalition that supports JIAT's conclusions. The JIAT statement is disjointed in that it makes three separate points without direct attribution:

(a) From 4 – 23 September 2017 six ballistic missiles were fired launched from northern Sana'a to Saudi Arabia. Note that the only link in this respect made to the factory is that the factory in located in northern Sana'a;

(b) The JIAT finds that the coalition forces carried out surveillance in these areas (northern Sana'a) and tracked a convoy of three trucks accompanied by an armed military vehicle until they entered the factory complex. In the statement, there is no information on what was suspected to be in the trucks. It is not clear if the possibility was considered that the trucks were carrying production material for the functioning factory within the complex.[14] It is also not clear as to whether the armed vehicle that is said to have been accompanying the vehicle also entered the factory, a fact that the factory owners contest, or indeed if the armed vehicle is another vehicle that was taking the same path – given that the capital Sana'a is full of these types of armed vehicles. In any event, at the time of the air strikes there were no evidence of the presence of any trucks or military vehicles in the compound; and

(c) The JIAT's third point is that the factories were targeted because of "the continued use of the complex in the war effort", without any articulation of what that might be.

3. Previously, the Saudi Arabia-led coalition justified the strikes on the basis that the complex "is now becoming a military manufacturing unit specialized in producing pipes Houthis use to assemble local-made missiles". In January 2017, the Panel provided evidence to the Committee as to the reasons that it believed that the factory was incapable of specializing in producing pipes to assemble missiles. The Panel continues to welcome verifiable information that demonstrates the military advantage sought to be achieved in these strikes.

4. The Panel declassifies and updates its findings in 2016 to enable an independent assessment to be made in view of the JIAT's findings.

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[12] Press statement by the JIAT on Coalition forces targeted Alsonidar complex in Sana'a. Document with Panel.

[13] The Panel requested, and received, 18 videos, some taken in the immediate aftermath of the two incidents.

[14] The factory employees informed the Panel that regular deliveries of raw materials are made to the factory. The provided the Panel with information, including invoices, supplier information, and shipping details of raw and auxiliary material transportation that was ordered and that entered the factory in September 2016.

I. Background

5. On 13 September 2016, at around 12:45 hours, military aircraft dropped four items of explosive ordnance on the Alsonidar factory complex in the Ban al-Hareth District of Sana'a.[15] This complex contains the Caprari Water Pump factory, the Alsonidar Steel Pipe factory, and the Alsonidar Red Brick factory. The explosive ordnance impacted on all three factories.[16] There were no civilian casualties. The water pump factory was salvageable after the first strike, but the other two factories were destroyed.

6. At the time of the attack, only the water pump factory was functional. Those producing bricks and steel pipes were not operational.[17] The Panel found no evidence to suggest that there were military personnel or equipment in, or in the vicinity of the strike, immediately before, or during the strike. There was a second strike on 22 September 2016, which is examined in more detail in the case study at appendix C to annex 60.

Figure B.60.1

Alsonidar complex (15 May 2015) prior to attack[18]

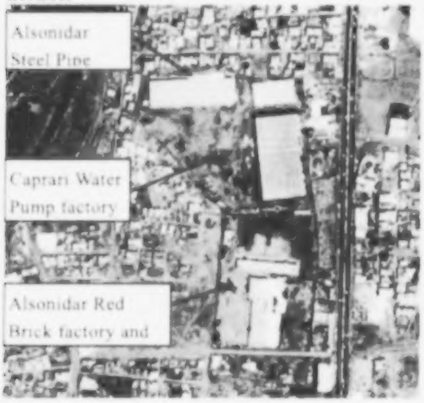


Figure B.60.2

Alsonidar complex (3 October 2016) post attack

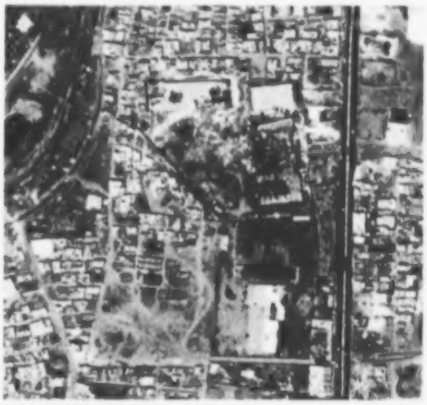


Figure B.60.3

Steel and Water Pump factories (3 October 2016) post attack

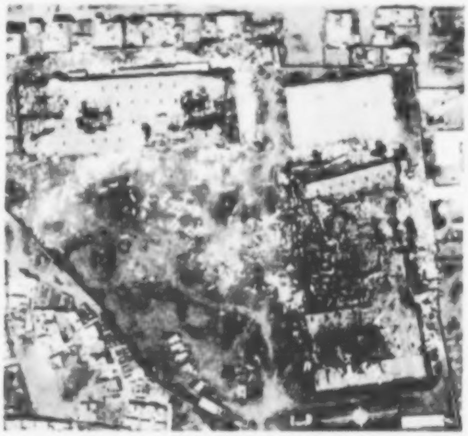
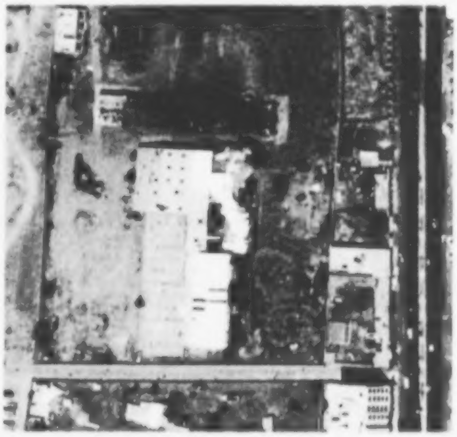


Figure B.60.4

Red Brick factory (3 October 2016) post attack



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[15] 15°27'05.09"N 44°13'36.9"E.

[16] Sources informed that a fourth factory, the Alsonidar Galvanizing Plant, which was being installed inside the pipe factory, was also affected.

[17] The Brick Factory has been non-operational for approximately the last 20 years and the Steel Factory, since 2014.

[18] Source: Google Earth, as are all other aerial images in this appendix.

II. Technical analysis of physical evidence

7. Panel finds that:

(a) Technical analysis of imagery of fragmentation recovered from the explosion indicates that one explosive device was fitted with a Paveway IV laser guidance unit for a high Mark 82 explosive (HE) aircraft bomb (figures B.60.5 and B.60.6).

Figure B.60.5
Component from a Paveway laser guidance system fin[19]

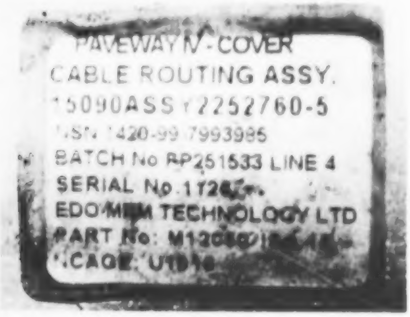
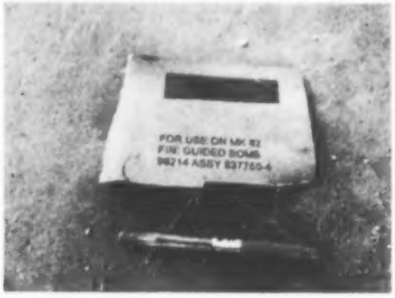

PAVEWAY IV - COVER
CABLE ROUTING ASSY.
15090ASSY2252760-5
NSN 1420-99-7993985
BATCH No RP251533 LINE 4
SERIAL No
EDO MBM TECHNOLOGY LTD
PART No: M1208
CAGE: U1

Figure B.60.6
Paveway IV laser guidance fin[20]

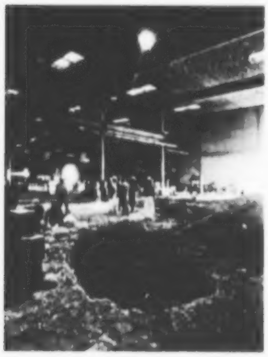

FOR USE ON MK 82
FIN GUIDED BOMB
98214 ASSY 837760-4

(b) At least one of the bombs used to destroy part of the Alsonidar factory complex was a Mark 82 HE aircraft bomb fitted with a Paveway IV GPS/INS and laser guidance unit.

(c) The crater at figure 2.X.7 is highly indicative of that cause by the detonation of a significant quantity of high explosives on impacting with a concrete floor; and

(d) The only party to the conflict with the known capability to deliver the Mark 82 HE aircraft bomb with the Paveway IV GPS/INS is the Saudi Arabia led coalition.

Figure 2.X.7
Crater from explosion of A/C bomb



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[19] Images in this annex were provided by those working in the factory.

[20] The Commercial and Government Equipment (CAGE) Code displayed on the part means that it was manufactured by EDO MBM Technology Limited, UK. The parent company is the Harris Corporation. https://www.harris.com.

III. Response of the Saudi Arabia led coalition

8. The Saudi Arabia led coalition stated in the media that it targeted the Alsonidar factory complex because it:

> "is now becoming a military manufacturing unit specialized in producing pipes Houthis use to assemble local-made missiles…This strike was necessary to protect Saudi border cities and eliminate the use of such missiles in Houthis attacks against the Yemeni national army and Yemeni citizens…The coalition takes its responsibilities under international humanitarian law seriously, and is committed to the protection of civilians in Yemen".[21]

9. The Panel has not yet received a response to a request for information made to the Saudi Arabia-led coalition.[22]

10. In January 2017, the Panel provided evidence to the Committee as to the reasons that it believed that the factory was incapable of specializing in producing pipes to assemble missiles.

IV. Panel findings on Saudi Arabia-led coalition's justification relating to the air strikes

A. Technical observations

11. The Saudi Arabia-led coalition argues that it targeted the Alsonidar complex because it "is now becoming… specialized in producing pipes Houthis use to assemble local-made missiles".[23] The Panel, based on available information,[24] finds this rationale unconvincing as:

(a) The Caprari Water Pump factory had machine tools installed to make relatively short lengths of 3" and 4" flanged pipes. Such pipes would require considerable reverse engineering to remove the flanges to make plain hollow pipes suitable for main missile bodies. The Panel finds that they would be unsuitable for use as main missile bodies due to the piping being too short and the degree of reverse engineering required to remove the flanges;

(b) The Alsonidar Steel Pipe factory was still in the development and commissioning phase and had only produced test samples of 50mm and 75mm diameter steel pipes with a wall thickness of 2.9mm. The Italian contractors left before the factory could become operational, and thus mass production would not be possible. The factory has been effectively closed since late 2014;

(c) The type of steel pipes the factory was designed to produce would not be ideal for use as the main missile bodies[25] of a free flight rocket (FFR), although it would be theoretically possible. The wall thickness would make them heavy for a missile main body (at 1.74 and 2.45 kg/m^2), requiring a significant amount of propellant to just launch the missiles, let alone give them any credible range;

(d) The factory does not have the machine tools necessary to manufacture the fins that FFR require for stability in flight, although these could be manufactured in a light engineering facility elsewhere and then taken to an assembly and filling facility;

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[21] http://www.reuters.com/article/us-yemen-security-idUSKCN11I27V.

[22] Letter dated 21 November 2016.

[23] http://www.reuters.com/article/us-yemen-security-idUSKCN11I27V.

[24] The Panel had access to video and imagery of the steel pipe factory taken prior to and after the airstrikes, installation manuals, investigators who visited the site after the incident, and other documentation, including letters from the Caprari Company dated 7 October 2016, Addar Fer, Italy dated 7 October 2016 and the Yemen Chamber of Commerce dated 14 September 2016.

[25] A main missile body being effectively a long, very thin pipe made of an appropriate material such as steel or composite materials.

(e) The factory does not have the machine tools necessary to manufacture the specialist nozzles that FFR rockets require to direct the propellant gases to produce thrust, although these could be manufactured in a light engineering facility elsewhere and then taken to an assembly and filling facility;

(f) The Panel has seen no evidence of any explosive manufacturing capability in Yemen to manufacture the double-based tubular propellant normally used in FFR. A single based propellant, such as black powder, could be used to produce a very crude FFR system similar to a large firework;

(g) Improvised FFR would still require fuzes to initiate them on impact. Use of fuzes from the artillery or mortar ammunition currently known to be available to Houthi or Saleh forces would not work as: 1) the calibres of the ammunition are different from the pipes produced in the factory, 2) the forces induced by the firing of artillery or mortar ammunition are different to those induced by a FFR, meaning that many fuze types would not arm; and 3) there would be a degradation in operational capability in taking fuzes from more effective purpose designed ammunition to use on much less effective improvised weapons;

(h) The only evidence seen by the Panel of the use of improvised FFR by the Houthi showed missile main bodies of different diameters to the piping manufactured in these factories;

(i) Saudi Arabia led coalition has not produced any evidence of the use of improvised FFR to the Panel;

(j) The Houthi or Saleh forces probably still have access to sufficient quantities of 107mm Type 63 and 122mm BM-21 GRAD FFR from the old Yemen Army stockpiles for their current operational needs; and

(k) If the Houthi or Saleh forces were producing improvised FFR they would need an assembly and filling facility. Such a facility would be the more natural target as it would contain all of the equipment and materials[26] necessary for the manufacture of improvised FFR.

12. The Panel finds that, even if the factory had been at the production stage, whilst the pipes manufactured at the Alsonidar Steel Pipe factory could theoretically be used as a crude main missile body for an improvised FFR, consideration of all the other factors make such a use extremely unlikely.

B. Legal observations

13. There is insufficient evidence to support the Saudi Arabia-led coalition's justification that the factory complex was a military objective because it "is now becoming a military manufacturing unit".

(a) A military objective is limited to those objects which by *their nature, location, purpose or use* make an effective contribution to military action and whose partial or total destruction, capture or neutralization, in the circumstances ruling at the time, offers a definite military advantage.[27] The "purpose" in these criteria relates to a future use, while "use", to its current functions.[28] The Saudi Arabia-led coalition's justification appears to be purpose-based;

(b) The common view is that in using the purpose-based criteria there must be a certain reasonable probability the object may be used for a military purpose[29] and an attack should not be based on mere speculation.[30] It is not possible to base an attack of an otherwise entirely civilian object merely "on the intention to deny its potential use to an adversely."[31] Yet, as demonstrated in the technical analysis above, it is extremely unlikely that the factory, which was not functional, could have been converted into a "military unit" producing the type of weapons that the Saudi Arabia-led coalition alleges; and

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[26] Such materials being: 1) main missile bodies, 2) nozzles, 3) fins, 4) propellant, 5) high explosive for the warhead, and 6) fuzes.

[27] CIHL R 8.

[28] Commentary to Article 52 of Protocol Additional to the Geneva Conventions of 12 August 1949 and relating to the Protection of Victims of International Armed Conflicts (Protocol 1) of 08 June 1977, at https://ihl-databases.icrc.org/applic/ihl/ihl.nsf/1a13044f3bbb5b8ec12563fb0066f226/5f27276ce1bbb79dc12563cd00434969.

(c) The Panel finds it difficult to accept the Saudi Arabia-led coalition's justification on the basis on which this factory complex became a military objective.[32]

V. Panel conclusions in 2016 on violations of IHL

14. The Panel finds that the use of precision guided weapons and repeated strikes, both on 13 and 22 September 2016, suggests that the factory complex was the intended target of these air strikes. This is further supported by the statement of the Saudi Arabia-led coalition.

15. There is insufficient evidence to demonstrate that the factory complex was a legitimate military objective, as elaborated above.

16. Thus, the Panel is unconvinced that the Saudi Arabia-led coalition complied with IHL principles relating to distinction.[33] It is also not convinced that it respected principles relating to distinction when it targeted the factory complex as a single military unit - there is no demonstrable evidence to suggest the Water Pump and Red Brick factories could manufacture the pipes specified.[34]

17. The Panel further finds that any reasonable intelligence review undertaken by the Saudi Arabia led coalition, prior to the air strike, should have taken into consideration that: 1) two of the three factories were not functional at the time of the air strike; 2) that two of these factories lacked the technical capacity to manufacture the specific pipes; 3) that the only factory with the technical capacity, the Alsonidar steel factory, was not functional since 2014; and 4) even if it were to become functional, it would have been highly unlikely to produce the type of pipes specified (see technical analysis).[35]

18. Even if the steel factory had become a legitimate military objective for reasons unknown to, or shared with, the Panel, the Panel is unconvinced that the Saudi Arabia-led coalition complied with the relevant IHL principles relating to proportionality. Two of the factories that were also subjected to air strikes had no technical capacity to produce or contribute to the production of the types of weapons specified.

19. The Panel finds that the Saudi Arabia-led coalition took some measures to minimize civilian casualties by undertaking the air strike in early morning hours when the water pumps factory was not operational. There were no reported civilian casualties.

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[29] Report on the Expert Meeting "Targeting Military Objectives", University Centre for International Humanitarian Law Geneva (2005) p. 7 - 8.

[30] Yoram Dinstein, "The Conduct of Hostilities under the Law of International Armed Conflict" (2010), Cambridge University Press, p. 100.

[31] William Boothby, "Law of Targeting", (2012), Oxford University Press, pp. 103-105.

[32] The Panel reiterates that in situations where more than one inference may be drawn from military intelligence purpose should be "predicated on intentions known to guide the adversary, and not those figured hypothetically in contingency plans based on a worst case scenario." Yoram Dinstein, "The Conduct of Hostilities under the Law of International Armed Conflict", p. 100.

[33] CIHL R 7. The Panel reiterates that while the pipes that the Alsonidar Steel Pipe factory is designed to produce, could theoretically be used as main missile bodies, this is highly unlikely considering the technical and tactical factors set out above. The Alsonidar Steel Pipe factory has not been operational since 2014.

[34] The red brick factory was not operational since 1995.

[35] IHL requires that in case of doubt whether a civilian object is a military objective, a careful assessment has to be made as to whether there are sufficient indications to warrant an air strike. CIHL R 10.

Appendix C to Annex 60: Alsonidar Factory complex, Ban al-Hareth District, Sana (22 September 2016)

I. Background

1. On 22 September 2016, at around 01:00 hours, a military aircraft dropped explosive ordnance on the Alsonidar factory complex in Ban al-Hareth District, Sana.[36] The air strikes completely destroyed the Caprari Water Pump factory, the Alsonidar Steel Pipe factory, and the Alsonidar Red Brick factory.[37] There were no civilian injuries or deaths. Air strikes first targeted the complex on 13 September 2016.

2. At the time of the attack, none of the factories were functional partly due to the first air strike.

Figure C.60.1
Alsonidar complex (15 May 2015) prior to attack[38]

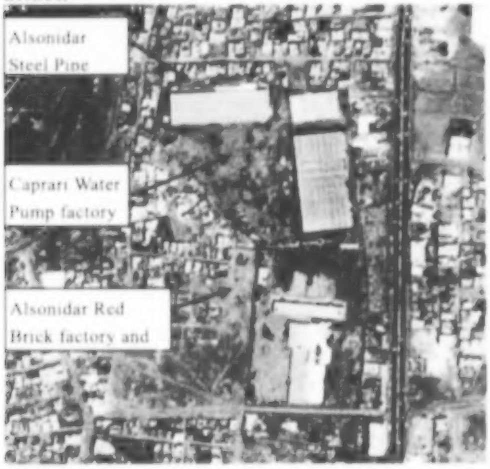


Figure C.60.2
Alsonidar complex (3 October 2016) post attack

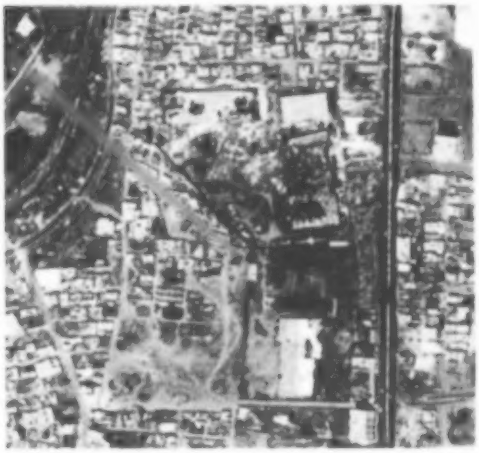


Figure C.60.3
Steel and Water Pumps Factories (3 October 2016) post attack

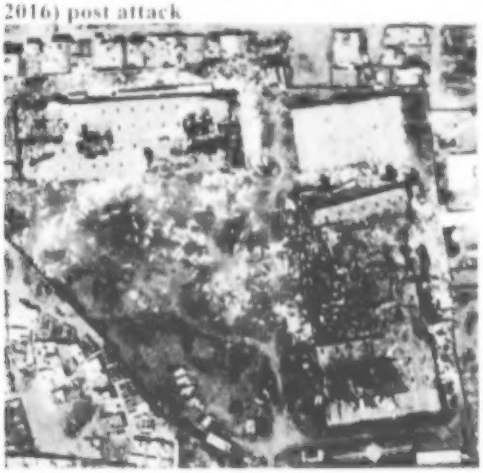
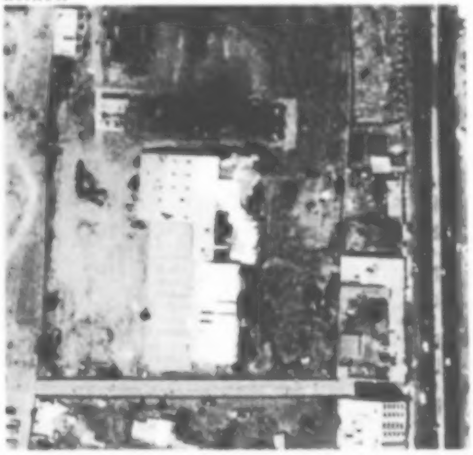


Figure C.60.4
Red Brick factory (3 October 2016) post attack



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[36] 15°27'05.09"N 44°13'36.9"E

[37] Sources informed the Panel that a fourth factory - Alsonidar Galvanizing Plant, which was being installed inside the pipe factory, was also affected.

[38] Source: Google Earth, as are all other aerial images in this appendix.

II. Technical analysis of physical evidence

4. The Panel finds that:

(a) Technical analysis of imagery of fragmentation recovered from the explosion indicates that one explosive device was certainly fitted with a Paveway IV laser guidance unit for a high Mark 82 explosive (HE) aircraft bomb (figures C.60.5 and C.60.6);

Figure C.60.5
Component from a Paveway laser guidance system wing

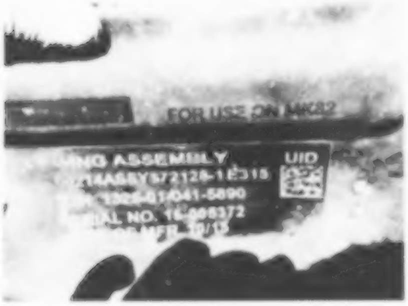

Figure C.60.6
Paveway IV laser guidance fin[39]

(b) At least one of the bombs used to destroy the Alsonidar factory complex was a Mark 82 HE aircraft bomb fitted with a Paveway IV GPS/INS and laser guidance unit;

(c) The entry points (holes) into the factories[40] were initially caused by the kinetic energy from aircraft bombs, which have hardened weapons grade steel cases. The aircraft bombs easily penetrated the thin-skinned roofs before detonating on the concrete floor of the factories, and

(d) The only party to the conflict with the known capability to deliver the Mark 82 HE aircraft bomb with the Paveway IV GPS/INS is the Saudi Arabia-led coalition.

III. Response of the Saudi Arabia-led coalition

5. The Saudi Arabia-led coalition made no public statements on the second set of airstrikes. It made a statement on 19 September 2016 after the first air strikes on the factory claiming responsibility for the strikes (see Annex 1). The JIAT also referred to this air strike in its statement above mentioned.

6. The Panel has not yet received a response to a request for information made to the Saudi Arabia-led coalition.[41]

IV. Analysis of violations of IHL

7. The Panel finds that the use of precision guided weapons and repeated strikes, both on 13 and 22 September 2016, suggests that the factory complex was the intended target of these air strikes. This is further supported by the statement of the Saudi Arabia-led coalition on 19 September 2016 (see appendix B to annex 60).

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[39] The Commercial and Government Equipment (CAGE) Code displayed on the part means that it was manufactured by EDO MBM Technology Ltd, UK. The parent company is the Harris Corporation. https://www.harris.com

[40] See imagery at Appendix B.

[41] Letter dated 21 November 2016.

8. There is insufficient evidence to demonstrate that the factory complex had become a legitimate military objective or that the Saudi Arabia-led coalition complied with IHL principles relating to distinction for the reasons specified in appendix B to annex 60.

10. The Panel further finds that any intelligence review undertaken by the Saudi Arabia-led coalition, prior to the air strike, should have taken into consideration that: 1) the facts mentioned in appendix B to annex 50; and 2) that the only factory that was not destroyed beyond immediate repair by the airstrikes was the water pump factory, which did not have the technical capacity to produce the types of pipes specified. It is reasonable to expect that intelligence gathered prior to the strike would have covered these aspects.[32]

11. Even if the steel factory had become a legitimate military objective for reasons unknown to the Panel, the Panel is unconvinced that the Saudi Arabia-led coalition complied with the relevant IHL principles relating to proportionality. It was the water pump factory that was destroyed beyond immediate repair during this second strike.

15. The Panel finds that the Saudi Arabia-led coalition took some measures to minimize civilian casualties by undertaking the air strike in early morning hours when the water pumps factory was not operational. There were no reported civilian casualties.

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[32] IHL requires that in case of doubt whether a civilian object is a military objective, a careful assessment has to be made as to whether there are sufficient indications to warrant an air strike. CIHLR 10.

Appendix D to Annex 60: Residential complex, Mafraq Jiblah, Ibb (24 September 2016)

1. The JIAT concluded that the Saudi Arabia-led coalition did not target the residential complex on 24 September 2016.[43]

2. The Panel finds that technical analysis of evidence demonstrates beyond a reasonable doubt that the residential complex was targeted using a Mark 82 high explosive aircraft bomb fitted with a Paveway laser guidance system. The only party to the conflict with the known capability to deliver precision guided HE aircraft bombs is the Saudi Arabia-led coalition.

I. Background

3. At approximately 22:00 hours on 24 September 2016, explosive ordnance dropped from a military aircraft detonated on the top floor of a three-story residential apartment complex in the Mafrak Giblah area, Ibb.[44] The residents of the complex consisted of nine families.[45] The explosion killed nine occupants, which included seven women and children, and injured, at least, seven others, mostly women and children.[46] The complex was located within a heavily congested residential area.[47] Thus, the air strike partially destroyed this complex and seriously damaged several adjacent residential buildings.[48] It also destroyed several civilian vehicles.[49]

4. At the time of the air strikes, there was an armed "locality defence team" composed of civilians in the area.[50] This team usually assembles following air strikes to prevent opportunistic looting and vandalism.[51] Some witnesses stated that the intended target of the air strikes may have been a civilian technical training centre located 46m from the residential complex.[52]

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[43] Press release with Panel.

[44] 13°56'42.47"N, 44°10'34.59"E.

[45] The heads of households of the nine families consisted of 1 teacher, 1 veterinarian, 1 doctor, 1 medical assistant, 1 manager of the building, 1 widow, 1 administrative officer, 1 nurse and 1 woman whose husband was abroad.

[46] The Panel found it difficult to verify the number of injured persons as: 1) families in the building had scattered following the air strikes, and 2) it was not possible to obtain comprehensive numbers of those injured in other buildings. Death certificates with Panel.

[47] Imagery available with Panel.

[48] Ibid.

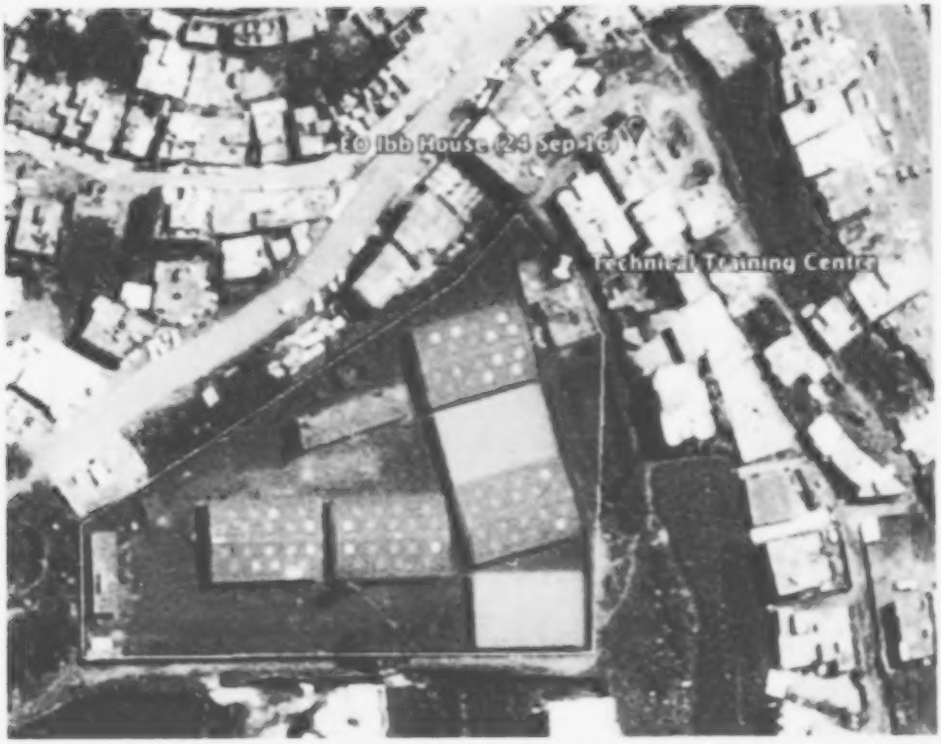
[49] Ibid.

[50] Civilians are protected from direct attack unless and for such time as they take a direct part in hostilities. Article 13 of AP I.

[51] There were reports of some air strikes in the area preceding the attack on the Ibb house.

[52] Some stated that they felt that the training centre was a target because they knew that the Saudi Arabia led coalition targeted these institutions. Others stated that they felt it would be targeted because it was guarded by armed men. A majority denied that the institute was used in any way to contribute to military action. The website of the technical institute is http://[illegible].net/portal/index.php.

Figure D.60.1
Relative locations of apartment complex and training centre



II. Technical analysis of physical evidence

5. Technical analysis of imagery of fragmentation recovered from the explosion at the civilian house finds that:

(a) The explosive device was almost certainly fitted with a Paveway laser guidance unit. Such units are usually designed to be paired with Mark 82 high explosive aircraft bombs (figures D.60.2 and D.60.3);

[illegible] Google Earth (12 July 2016).

Figure D.60.2

Post-explosion guidance wing from a Paveway laser guidance system

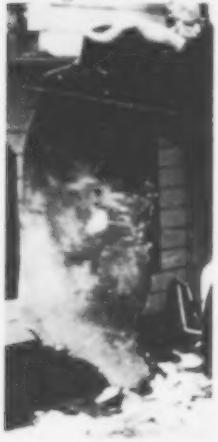
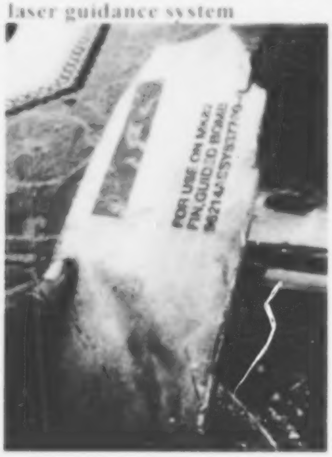


Figure D.60.3

Post-explosion adapter flange from a Paveway laser guidance system



(b) The damage to civilian apartment complex was highly indicative of that caused by the detonation of a large quantity of high explosive. There was clear evidence of the destruction of structural components of the building that equate to the damage to be expected from the shock and blast waves of an explosion (figures D.60.4 and D.60.5);

Figure D.60.4

Civilian apartment complex post blast

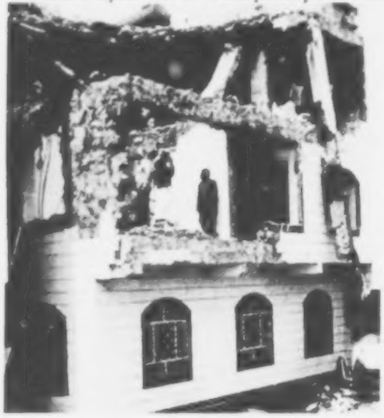
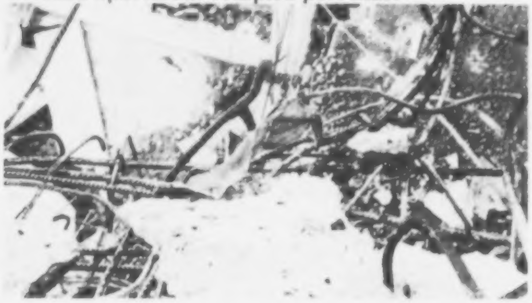


Figure D.60.5

Civilian apartment complex post blast



(c) The civilian apartment complex was almost certainly destroyed by a Mark 82 high explosive aircraft bomb fitted with a Paveway laser guidance system; and

(d) The only military entity operating the type of aircraft in the area that has the capability to deliver high explosive ordnance of this type is the Saudi Arabia-led coalition.

III. Response of the Saudi Arabia led coalition and findings of the JIAT

6. The Panel has not yet received a response to a request for information made to the Saudi Arabia led coalition.[94]

7. The JIAT stated in November 2017 that the Saudi Arabia-led coalition did not target this residential complex. It stated:

> "on 24 September 2016 Coalition forces targeted a building at bin Laden resort in Ibb governorate which was used as a military headquarters by the Armed Houthi Militia, which represents a legitimate military target, the target is located at a distance of 1070 meters from the claimed residential building. *JIAT concludes that the Coalition did not target the residential building*" (emphasis added).[95]

IV. Analysis of violations of IHL[96]

8. The Panel finds that the Saudi Arabia-led coalition was responsible for this air strike (paragraph 4) and that the use of precision-guided weapons demonstrates that the residential complex was the intended target of these air strikes. In 2016, the Panel found that there was no evidence to support a finding that the complex had become a legitimate military objective.

9. The Panel concluded that the residential complex was a *prima facie* civilian object, immune from direct attack and that the occupants had not lost their civilian protection.[97] Therefore, unless the Saudi Arabia-led coalition provides information to the contrary, evidence strongly demonstrates that the Saudi Arabia-led coalition violated principles of IHL, including those relating to distinction, proportionality and precautions in attack.

10. The Panel will continue to welcome a clarification from the Saudi Arabia-led coalition.

Appendix E to Annex 60: Civilian house, T'baisha', Jebel Habshi, Ta'izz (25 March 2016)

I. Background to events

1. At approximately 07:00 hours on 25 March 2016, explosive ordnance dropped from a military aircraft detonated on a civilian two story house in the village of T'baisha', Ta'izz.[98] The blast and fragmentation from the explosion killed all ten occupants of the house, which included three women and five children from the same family. The closest military location was a Houthi base located on a mountain, which was a significant distance from the village. There was no reported presence of armed fighters near the house.

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[94] Letter dated 21 November 2016.

[95] Press statement by the JIAT: Coalition forces claim to bomb residential building in Ibb governorate (document with Panel).

[96] In the absence of a response from the Saudi Arabia led coalition, the Panel analyzed the applicable IHL law in relation to this incident on the basis of its own independent investigations including: 1) witness testimonies; 2) technical analysis of weapon fragments; 3) satellite imagery; 4) examination of investigation reports of international and non-international organizations; 5) examination of medical reports; and 6) open source imagery and documentation. For open sources see "Raids kill nine in central Yemen - medical official, residents" http://www.reuters.com/article/us-yemen-security-idUSKCN11V041; "Arab coalition airstrikes kill 10 civilians in Yemen's Ibb city" http://news.xinhuanet.com/english/2016-09/25/c_135712446.htm; "Gulf of Aden Security Review – September 26, 2016" http://www.criticalthreats.org/gulf-aden-security-review/gulf-aden-security-review-september-26-2016; "Yemen – Conflict (Health Cluster, media) (ECHO Daily Flash of 26 September 2016)" http://reliefweb.int/report/yemen/yemen-conflict-health-cluster-media-echo-daily-flash-26-september-2016.

[97] IHL requires that the civilian population, as well as individual civilians, shall not be the object of attack. Article 13(2) of AP II and CIHL R.1.

[98] 13°33'56.2"N, 43°54'03.4"E.

Figure E.60.1
Remote location of house[59]

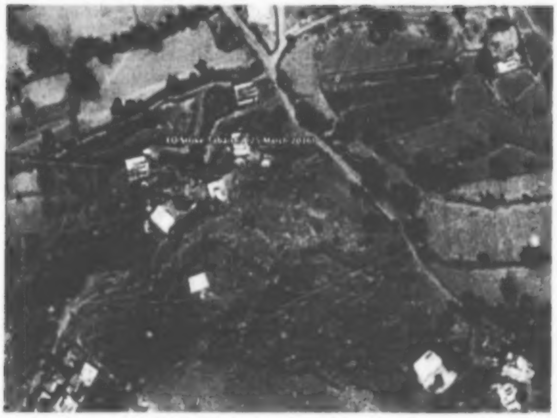
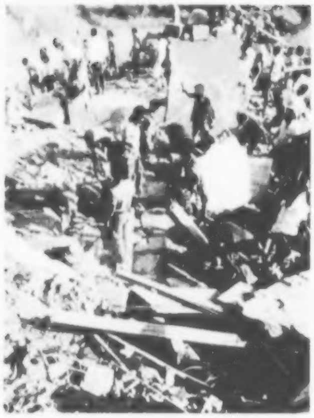


Figure E.60.2
Post blast damage



II. Technical analysis of physical evidence

4. The Panel finds that post blast analysis of imagery of the explosion is highly indicative of damage consistent with the detonation of a high explosive aircraft bomb (figure E.60.2). This is collaborated by eye-witness statements that report the presence of a military aircraft preceding the explosion and a document issued by the ministry of justice stating the same.[60]

5. The steel strengthening bars within the concrete have been sheared, due to the power of the shock wave close to an explosion, whereas further away from the point of explosion the steel strengthening bars have been deformed due to the power of the blast wave. Such damage mechanisms are highly indicative of that typically caused by the detonation of high explosives; a gas explosion, for example, would not have the power top shear steel strengthening bars; and

6. The only military entity operating the type of aircraft in the area that has the capability to deliver high explosive ordnance of this type is the Saudi-led coalition.

7. The house was highly likely to be the intended target of the air strike. The Panel is not convinced that the Saudi Arabia led coalition directed its air strike against a legitimate military target. Yet, even if it had, the Panel is not convinced that the forces respected IHL principles relating to proportionality and precautions in attack.

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[59] Google Earth
[60] Document with Panel

Appendix F to Annex 60: Radfan Mineral Water-Bottling Factory, al-Mahala, Lahj (25 May 2016)

I. Background to events

1. At around 04:00 hours, on 25 May 2016 military aircraft dropped multiple items of explosive ordnance on a water bottling plant in al-Mahala, Lahj.[61] There were no civilian fatalities reported.[62] The factory employed over 300 people at the time of the air strikes.[63]

2. The Panel found no evidence to suggest that there were fighters or their equipment in or in the vicinity of the factory preceding or at the time of the air strikes. The closest military installation is a base under the control of the Hadi-led government of Yemen, which is located 15.3 km northwest of the factory. In the two weeks preceding the air strike, soldiers from this base had twice entered the water bottling plant.[64]

Figure F.60.1
Radfan Factory (27 October 2013) prior to attack[65]

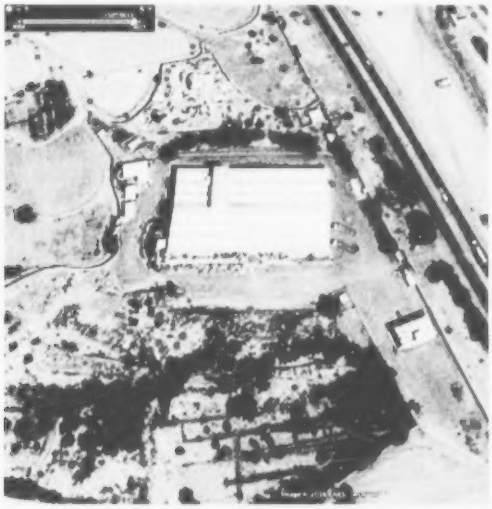
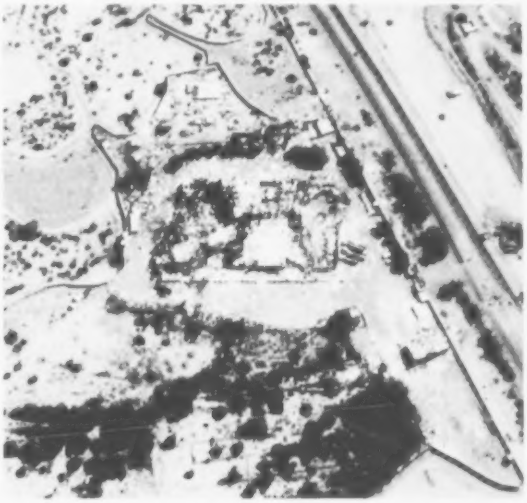


Figure 6.X.2
Radfan Factory (8 June 2016) post attack[66]



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[61] 13°05'09.07"N, 44°51'54.83"E

[62] At the time of the attacks, there were approximately ten civilians guarding the factory.

[63] Owner of the factory. See also http://reliefweb.int/report/yemen/bombing-businesses-saudi-coalition-airstrikes-yemen-s-civilian-economic-structures-enar.

[64] The Yemen armed forces conducted search operations and forcefully removed and relocated several factory on the basis that they were "Northerners". See S/2017/81 para 153 for reference to this forced removal.

[65] Source: Google Earth.

[66] Ibid.

Figure F.60.3
Al Anad Air Force Base[67]

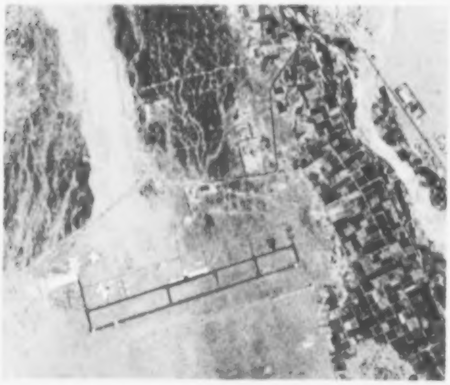
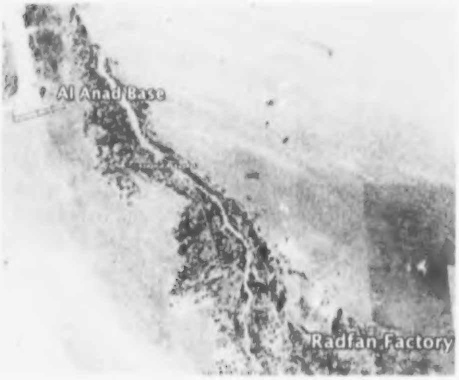


Figure 6.X.4
Air Force Base relational to Factory



II. Technical analysis of physical evidence

3. Technical analysis of imagery of fragmentation recovered from the explosions at the factory (figures F.60.5 and F.60.6) demonstrates that the explosive device was almost certainly fitted with a Paveway[68] laser guidance unit.[69] Such units are designed to be paired with Mark 82 high explosive (HE) aircraft bombs;

Figure F.60.5
Guidance fin and component from a Paveway laser guidance system

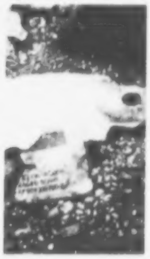
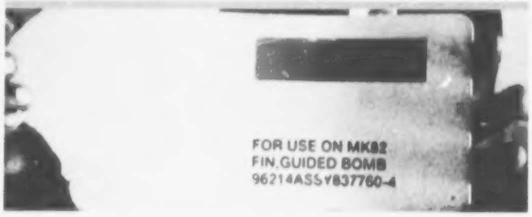


Figure F.60.6
Paveway laser guidance fin



4. The water bottling plant was almost certainly destroyed by a Mark 82 HE aircraft bomb fitted with a Paveway laser guidance system, resulting in extensive damage; and

5. The only party to the conflict with the known capability to deliver the Mark 82 HE aircraft bomb with the GBU-12 PAVEWAY II guidance unit is the Saudi Arabia-led coalition.

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[67] 13°10'53.13" N 44°45'46.42" E.

[68] It was not possible to determine from just the fin whether it was a GBU-12 Paveway II (US manufactured) or Paveway IV (UK manufactured) laser guidance unit.

[69] The Enhanced GBU-12 (EGBU-12) has a dual mode laser guided and GPS inertial navigation system. The Panel cannot determine if this was fitted to this bomb from the available evidence.

6. The Panel finds that the factory that was the intended target of the air strikes. The Panel is not convinced that IHL principles relating to distinction and proportionality were met. The Yemen Armed Forces had entered and searched the factory on two occasions within the two weeks that preceded the air strikes, and had not, according to witnesses, made any claim or confiscated any material or arrested any person that could have demonstrated that the factory or its workers were making an effective contribution to military action.[70]

7. The Panel finds that the Saudi Arabia-led coalition took certain precautions measures to successfully avoid civilian fatalities, in that it conducted its air strikes at night when the factory was not operational. It is also relevant that the first air strikes did not impact on the sleeping quarters of the workers, thus enabling them to seek protection from the effects of the strikes.

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[70] Panel interviews with four persons who interacted with the Yemen Armed Forces.

CONFIDENTIAL ANNEX NOT FOR PUBLIC DISSEMINATION

Annex 61: Case studies and other information on UAE detentions

Annex 62: IHL and HR violations relating to detentions by UAE military forces

I. Terminology

1. In this annex, the terms "arrest", "detention", and "detainee" are used to describe the act of depriving an individual of his liberty, the consequential deprivation of liberty, and those subjected to the deprivation of liberty, respectively, without prejudice to the lawfulness of those acts and irrespective of whether detainees are subjected to internment[1] or criminal detention.[2] The Panel received information from former and current detainees, but because of veritable threats against detainees and their families, the Panel will refrain from providing more information on their current situation. The Panel defines the terms arbitrary arrest and detention,[3] torture,[4] enforced disappearance,[5] and sexual violence[6] in accordance with international law and jurisprudence.

2. In this annex, unless otherwise stated, the term Yemeni forces refers only to the Security Belt in Aden, Hadrami Elite Force, and the Shabwani Elite Force.

II. Legal justification for UAE involvement

3. The primary legal justification for the UAE's involvement in the armed conflict in Yemen is based on the invitation issued by the legitimate Government of Yemen.[7] The UAE's obligations are analyzed herein under both IHL and IHRL regimes, as both are binding on the UAE in respect of its obligations in Yemen.[8] Under IHL and/or IHRL and norms, the following are prohibited at all times: arbitrary arrest and deprivation of liberty of individuals, non-adherence to certain due process rights, violence to life and person, torture and ill treatment, sexual violence, outrages upon personal dignity, and threats to commit the above acts, and enforced disappearances.[9] The following paragraphs outline the Panel's main findings and conclusions, based on its independent investigations.

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[1] The term 'internment' refers to detention for security reasons in situations of armed conflict, i.e. the non-criminal detention of a person based on the serious threat that his or her activity poses to the security of the detaining authority in relation to an armed conflict. See Commentary to Common Article 3.

[2] Detention related to a criminal process. The Panel is only investigating those detentions linked to the conflict in Yemen and where IHL and/or IHRL violations can be established.

[3] The Panel considers an arrest, and consequent detention to be arbitrary when, inter alia: 1) it is clearly impossible to invoke any legal basis justifying the deprivation of liberty, and 2) when the total or partial non-observance of the international norms relating to the right to a fair trial is of such gravity as to give the deprivation of liberty an arbitrary character. See Working Group on Arbitrary Detention, Report, A/HRC/16/47 of 19 January 2011, paragraph 8.

[4] Article 1 of the Convention against Torture and Other Cruel Inhuman or Degrading Treatment or Punishment (CAT).

[5] The Panel considers that enforced disappearances occur when: 1) persons are arrested, detained or abducted against their will or otherwise deprived of their liberty, 2) followed by a refusal to disclose the fate or whereabouts of the persons concerned, or 3) a refusal to acknowledge the deprivation of their liberty, and 4) which places such persons outside the protection of the law. See the Declaration on the Protection of All Persons from Enforced Disappearance (A/Res/47/133).

[6] Sexual violence includes any act of a sexual nature, which is committed on a person under circumstances which are coercive. See International Criminal Tribunal for Rwanda, *Prosecutor v. Jean-Paul Akayesu*, Case No. ICTR-96-4, Judgment (Trial Chamber), 2 September 1998, para. 688, (3).

[7] S/2015/217.

[8] The UAE is a party to the Geneva Conventions of 1949 (10 May 1972) and the Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of Non-International Armed Conflicts (Protocol II), 8 June 1977 (Additional Protocol II) (09 March 1983). The UAE has not ratified the International Covenant on Civil and Political Rights (ICCPR), but is a party to, inter alia, CAT (19 July 2012) and the Convention on the Rights of the Child (CRC) (03 January 1997). The UAE is bound by provisions of the ICCPR, in so far as it reflects existing customary international law, and the Universal Declaration of Human Rights. The UAE military forces are bound by the State's human rights obligations in times of armed conflict and "in respect of acts done by a State in the exercise of its jurisdiction outside its own territory". See *Legal Consequences of the Construction of a Wall in the Occupied Palestinian Territory, Advisory Opinion*, I.C.J. Reports 2004, pp. 178-181, paras. 106 – 113 and *Case Concerning Armed Activities on the Territory of the Congo (Democratic Republic of Congo v. Uganda)*, Judgment of 19 December 2005, para. 216.

[9] The relevant provisions can be found, inter alia, in Geneva Conventions Common Article 3 and Additional Protocol II articles 4 and 5 and the CAT. See also ICRC Customary IHL rules, inter alia, rules 90, 93, 98, 99, 100, 105, 117, 118, 123, 125 and 126 for an elaboration of relevant IHL principles. See also Chatham House and ICRC, Expert meeting on procedural safeguards for security detention in non-international armed conflict, December 2009.

III. UAE detention sites in Yemen

4. The UAE denies maintaining detention facilities in Yemen.[10] It informed the Panel that all detainees are kept in "facilities and prisons under the authority of the legitimate Government".[11] In 2016 and 2017, the Panel investigated violations relating to eighteen detainees held in detention facilities administered and supervised exclusively by the UAE (see table 62.1).

Table 62.1
Summary of UAE detentions investigated (2016 - 2017)

Serial	*Date*	*Bureiqa UAE base*	*al-Rayyan UAE base*	*Shabwah Belhaf port*
1	Number of detentions investigated 2016[12]	0	6	0
2	Number of detentions investigated 2017	7	3	1

5. The persons documented in the above sites fell within the exclusive jurisdiction of the UAE military forces, while at the detention site.[13] Yemeni official sources informed the Panel that the Government of Yemen does not have any authority over them once they are under UAE custody.[14]

6. The Panel identified the location of the detention facility inside the Bureiqa UAE base, based on drawings and descriptions provided by six detainees (annex 61). Satellite imagery shows, what is now being identified as, solitary cells being built in 12 April 2016. The Bureiqa base was under the exclusive control of UAE forces in April 2016 and thus, they alone were responsible for the construction of this site.

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[10] Previously UAE held that "… the UAE, as a part of the Arab Coalition (sic), does not administer or supervise any prisons in Yemen. … This is within the jurisdiction of the Yemeni legitimate authorities. The Coalition forces provide training to Yemeni cadres in accordance with the best legal practices …" https://www.thenational.ae/world/foreign-ministry-denies-existence-of-uae-run-secret-prisons-in-yemen-1.92640, 23 June 2017.

[11] UAE letter to Panel 2017/578 of 8 November 2017.

[12] Paras. 133 and 134, S/2016/81.

[13] Three detainees witnessed/ or was informed by UAE officials of a "western presence" in Bureiqa. United States troops are reported to be present in al-Rayyan detention site. See https://www.apnews.com/4925f7f0fa654853bd6f2f57174179fe. The Panel requested confirmation from the United States on presence of its forces in al-Rayyan, their involvement in UAE-related detentions, and knowledge of detention-related abuses. The United States informed the Panel that it was "unable to share additional information with the Panel at this time." Email dated 13 December 2017.

[14] In addition to confidential Panel sources, the following documents also refer to UAE detentions; 1) letter dated 31/07/2017 sent to HRW by the 2nd Military Regional Command, which states that "Some of the assertions (on abuses associated with detentions) are biased, intended to slander Coalition forces and especially the United Arab Emirates. Everyone knows the honorable role played by this country … as well *as the ethical treatment of prisoners where much is done to facilitate communication with their families*", (emphasis added); 2) a previous iteration of the above letter, signed by Brigadier General Farag Salemeen al-Bahsani, Commander of the 2nd Military Regional Command. This letter states that allegations on abuses in detention were made to tarnish the reputation of the UAE, but that al-Bahsani "confirm(s) that they (UAE) have dealt with detainees in a civil and humane manner" including by facilitating communications between the detainees and their families and by allowing one detainee to visit his mother's funeral; and 3) Report of group of human rights activists in Hadramawt who visited "secret detention facilities" in July 2017 concluded that "They (sic) are around 175 detained at al-Rayyan that are being held for terrorism charges. The area that they are being held in (al-Rayyan) it is an old location that is not in the possession of the government (unofficial Panel translation)." Open sources include https://www.hrw.org/news/2017/06/22/yemen-uae-backs-abusive-local-forces (HRW), https://www.apnews.com/4925f7f0fa654853bd6f2f57174179fe (AP), and http://www.echr.org.uk/news-details-secret-prisons-yemen-under-supervision-uae (SAM Organization for Rights and Liberties).

Imagery on 7 November 2017 shows a further expansion of the base (annex 61). The location of the UAE detention facility in al-Rayyan was identified by AP.[59]

IV. Joint arrest activities between UAE and Yemeni forces

7. The UAE informed the Panel that all arrests are undertaken exclusively by Yemen security forces, and that the UAE does not arrest any civilians.[60] The Panel has documented three incidents where UAE and Yemeni forces conducted joint arrest operations. In two operations in Shabwah and Mukalla, UAE air assets were deployed during the arrest operation and in the other, in Mukalla, UAE forces acted as observers. These detainees were then directly transferred to UAE custody.

8. The Panel finds that while the UAE has engaged in joint arrest operations with Yemeni forces that resulted in the UAE taking individuals into its custody, in most cases investigated by the Panel, the UAE military forces received detainees whom the Yemeni Forces had arrested.

V. Transfer of detainees between UAE and Yemeni forces

9. In the incidents investigated, the Hadrami Elite Forces, the Director of General Security of Aden, the Security Belt in Aden, and Shabwani Elite Forces transferred detainees, whom they had arrested, to UAE custody (for individuals responsible for these forces see annex 65. Eye-witnesses informed the Panel that UAE forces also removed detainees out of Yemeni custody from Bir Ahmed I. Other transfers documented include three detainees transferred from the UAE site in Bureiqa to Bir Ahmed I. An identified UAE official also transferred detainees from Bir Ahmed I to Bir Ahmed II on 12 November 2017 (figure 62.2).

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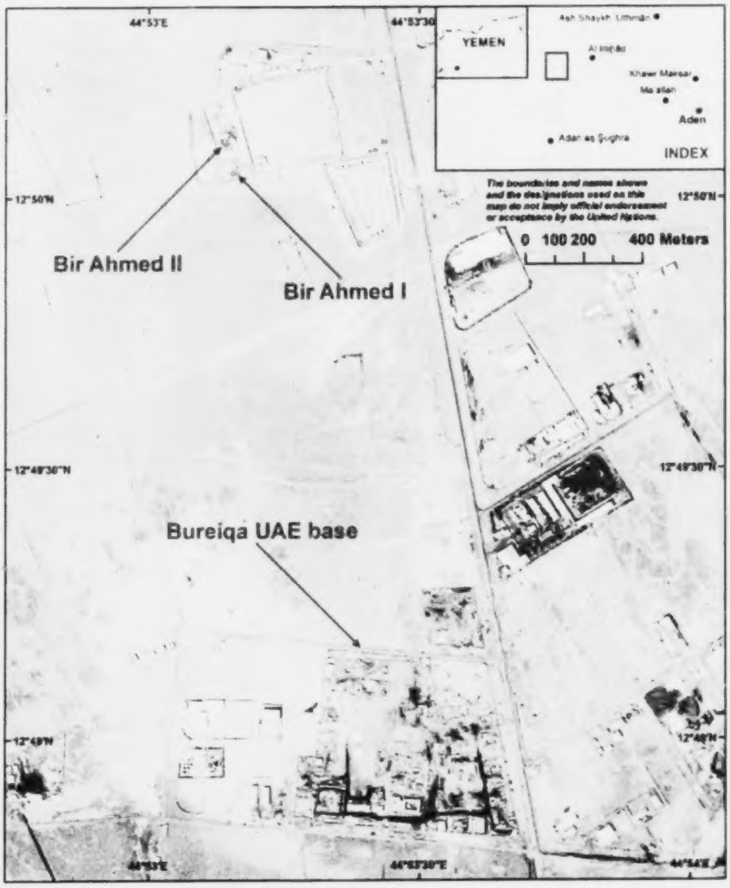
[59] https://www.apnews.com/4925f7f01a654853bd6f2f571741791c. At 14°40'9.92"N 49°22'28.49"E. The UAE informed the Panel that *"Riyan (sic) Airport is used (by the UAE) in providing the local authorities in Hadramaut (sic) with the necessary support to control the security situation … in coordination with … the governor"*. UAE letter to Panel 2017/578 of 8 November 2017.

[60] UAE letter to Panel 2017/578 of 8 November 2017.

Figure 62.1
Relative locations of Bir Ahmed site I and II and the UAE Bureiqa site[17]


44°53'E
44°53'30"E
YEMEN
Ash Shaykh Uthmān
Al Ḥişwah
Khawr Maksar
Ma'allah
Aden
Adan aş Şughra
INDEX
The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.
0 100 200 400 Meters
12°50'N
12°49'30"N
12°49'N
Bir Ahmed II
Bir Ahmed I
Bureiqa UAE base
44°53'E
44°53'30"E
44°54'E

10. The lack of transparency for these transfers, combined with official denials of the presence of individual detainees and/or detention sites at certain locations, create an environment conducive for enforced disappearances. For example, families said that they were aware of detainees being present in some sites, for example, al-Rayyan UAE base or Bureiqa UAE base, based on information received from former detainees or Yemeni officials who were involved in the transfers, but the UAE had not, to date, provided identification information on detainees held in these detention sites to families.[18] The Panel also met with fourteen families who were informed that their disappeared relatives were in UAE administered or controlled prisons.[19]

11. The Panel finds that is no evidence that the UAE and/or Yemeni forces are taking the appropriate precautions required under international law, when engaging in the transfer of control of detainees into each other's

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[17] Image: Panel of Experts. Bir Ahmed I was described by detainees, while Bir Ahmed II was located using satellite imagery, based on descriptions provided by detainees and open source images.

[18] Interviews with multiple family members who directly engaged with the Saudi Arabia-led coalition forces in Aden and Mukalla on seeking information on the fate of their loved ones. Initially, these forces were cooperative with families (for example, in Mukalla, in December 2016, coalition forces requested families to provide detainee lists), but later, they refused to engage, according to these families.

[19] Information provided to the families by other former detainees or security personnel. One detainee was witnessed by a relative entering the Bureiqa UAE base, his whereabouts are since unknown.

authority and custody to prevent detention related abuses, including enforced disappearances.[20] For example, the Panel has identified torture and ill treatment of the same detainees by both the UAE and Yemen forces (see annex 61).

VI. UAE military forces' control and influence over Yemeni forces

12. The Governments of Yemen and the UAE state that the Security Belt, Aden, and the Elite Forces are under the exclusive authority of the Government of Yemen.[21]

13. This is denied by official Yemeni sources, who informed the Panel that the Government of Yemen does not have complete operational control over these forces and their leadership. These forces carry out operations independently of the Government, and are, sometimes, tasked by the UAE forces themselves.[22] The Panel was also informed by official Yemeni sources that:

(a) Salaries of the Security Belt, for example, are paid directly by the UAE to the Security Belt forces, and the salary paid exceeds significantly from what is paid to regular forces operating under the Government of Yemen (see annex 65);

(b) Government of Yemen does not have information on all names and other details of detainees arrested by the above Yemeni forces, and handed to UAE custody; and[23]

(c) There have been clashes between some of these Yemeni forces, and those under the control of the legitimate government demonstrating the Government of Yemen's inability to exert full operational control over them.[24]

14. The Panel has identified the Elite Forces and Security Belt as proxy forces of the Saudi Arabia-led coalition.

15. Despite the level of control exercised by the UAE over the Security Belt and Elite Forces, there is no demonstrable evidence that the UAE has acted to prevent violations by the Yemeni forces. For example, the Panel investigated a case where a detainee was physically abused by the Security Belt, immediately prior to the transfer of that detainee to the UAE, and finds it is unlikely that the UAE military forces assuming custody would have failed to notice the abuse. Given, however, that the UAE military forces then physically abused the same detainee, the Panel can only conclude that there is collusion between the forces on measures adopted to collect information from detainees. This pattern of detainee abuse by multiple authorities was also observed with other detainees transferred to the UAE from the custody of the Director of General Security, Aden (see annex 61).

16. The fact that the UAE military forces themselves engage in violations with impunity (see paragraph 19) creates an environment conducive to violations. It then enables the Yemeni forces operating with the UAE, also to engage in the same violations with enhanced impunity. See appendix A for levels of influence exerted by the Saudi Arabia-led coalition on Yemeni forces.

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[20] See paras. 708 and 714 of the Commentary to Common Article 3 on obligations relating to *non-refoulement* when detainees are transferred to the custody of one State by another State. There is clearly an information exchange between the Yemeni forces and the UAE officials interrogating the detainees as demonstrated by the questions asked by detainees by both entities.

[21] Panel meeting with Ministry of Interior, Aden, 2 October 2017; UAE letter to Panel 2017/578 of 8 November 2017; S/2017/81, para 134. Both the UAE and the Government of Yemen's official positions are that the UAE provides, inter alia, training and other logistical support to these forces. http://arabthr.org/2017/06/27/yemeni-human-rights-minister-denies-secret-prisons-in-aden-southern-yemen/?lang=en

[22] Yemeni official sources, including those dealing with security.

[23] Ibid. Thus far, the Government of Yemen has not responded to any Panel requests for information on UAE detentions.

[24] See UAE-backed fighters take Aden airport from Hadi forces, *Middle East Eye*, May 31, 2017 at http://www.middleeasteye.net/news/uae-backed-fighters-yemen-take-over-aden-airport-ally-hadi-report-1568338746

VII. Legal authority for the UAE detentions in Yemen

17. The Panel has asked, but not yet received, from Saudi Arabia, the UAE or Yemen, relevant information on the relevant legal authority under which the UAE engage in arrests and deprivation of liberty in Yemen. The invitation to GCC countries intervening in the Yemeni conflict, presented by the Government of Yemen is broad,[25] but, in the absence of a response from the Government of Yemen for a clarification, it is not for the Panel to conclude that this invitation provides the relevant legal authority for UAE to detain individuals, especially given that the Government consistently fails to acknowledge UAE detentions or detention sites maintained by the UAE.[26]

18. Similarly, in the absence of a response by the Government of Yemen on the relevant position in its domestic law or on the existence of a bilateral/multilateral agreement on the same, the Panel is not able to conclude that the relevant legal basis can be found in those instruments.[27] The UN Security Council resolutions on Yemen do not provide the requisite legal authority. There are no standard operating procedures regulating the arrest and transfer of detainees and their conditions of detention in respect to UAE detentions.

19. Thus, the Panel finds that the legal authority under which the UAE engages in arrests and detentions in Yemen is unclear, as neither country would provide the relevant clarification. The Panel finds that this is presumably because neither UAE nor Yemen acknowledges UAE detentions in Yemen, and to provide a clarification on UAE authority would invariably necessitate an acknowledgement of UAE detentions.

VIII. UAE violations of IHL and HR of detainees

20. Detainees informed the Panel of the following violations at the Bureiqa detention site:[28]

(a) Torture, including beatings, electrocution, constrained suspension, imprisonment in a metal cell ("the cage") in the sun and sexual violence (annex 61).[29] UAE soldiers and officials inflicted these abuses to obtain information or to punish individuals;

(b) Denial of appropriate medical treatment, including for torture and prevailing medical conditions;[30]

(c) Enforced disappearance. The detainees investigated by the Panel were at the Bureiqa detention site from a few days to over six months. With a few exceptions, families were unaware of their whereabouts. A significant majority of detainees were not allowed to communicate with their families;

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[25] S/2015/217.

[26] One may argue that the transfer of detainees, arrested by individuals and entities said to be under the "de jure control" of the Government of Yemen, to UAE custody, may constitutes an implicit authorization on the part of the Government of Yemen for UAE to detain these individuals. It is not for the Panel to infer implicit authority especially given the low-level of control the Government of Yemen exercises over these Forces.

[27] It is unclear if Common Article 3 to the Geneva Conventions or AP II alone provides a basis for detention. See ICRC, "Internment in Armed Conflict: Basic Rules and Challenges, Opinion Paper", November 2014, p.8. It is recognized that in a non-international armed conflict additional authority maybe required as a legal basis for foreign forces to detain individuals. This may include authorizations under a Chapter VII Security Council resolution, domestic legislation, or an international agreement between the detaining State and host State. See also ICRC, "Strengthening international humanitarian law: protecting persons deprived of their liberty. Concluding report", 32IC/15/19.1, October 2015.

[28] In accordance with Panel methodology, all the information in this section (and this annex) was provided by, at minimum, two sources. For this section, the sources were either eye-witnesses or victims.

[29] Five detainees witnessed torture and sexual violence being committed against other detainees and, at least, four interviewed by the Panel, stated that they were tortured. Medical records verified the occurrence of torture in two cases, but circumstances of other detainees did not allow for medical verification.

[30] Two detainees. Yet, another detainee was provided medical treatment, for torture that occurred immediately before he entered the Bureiqa base, as the UAE concluded that his arrest and detention was ill conceived and there was no reason for him to be detained. Yet, the detainee was not released.

(d) The families of detainees, their legal representatives, or the representatives of international organizations, including the ICRC, have not had access to detainees;[31] and

(e) While there were regular interrogations of detainees, including the allocation of case officers for each detainee, detainees had no access an impartial body to challenge their detention.

21. The Panel finds that the UAE military forces have engaged in violations of IHL and IHRL when it engaged in arbitrary arrest and detention,[32] torture, ill treatment, enforced disappearances and threats to commit the above acts, and other violations of fundamental guarantees of detainees.[33]

IX. Acts of intimidation and threats by UAE forces and other groups

22. There is widespread intimidation practiced by the UAE and their local collaborators to maintain secrecy of these detentions and associated abuses. The Panel considers that the following documented acts of intimidation are extremely grave in that they deprive families the right to know the fate of their relatives, prevent any accountability for the violations, and facilitate denials of continued violations:

(a) A detainee was threatened with sexual abuse if he informed anyone of the detention and consequent abuses suffered at the hands of the UAE;

(b) Another former detainee was warned not to discuss his detention with the UAE, but when he did, he was immediately rearrested and remains in UAE custody;[34]

(c) The Panel observed widespread fear during its discussions with former detainees, families of detainees, and activists that there will be repercussions on those who speak of the UAE detentions, in Mukalla and Aden. In both Mukalla and Aden, protestors who demonstrated against these detentions were, on two occasions, subjected to verbal harassment and physical abuse.[35] They were sufficiently intimidated to discontinue their protests at the same locations; and

(d) In one case, a letter sent to HRW by the UAE Ministry of Defence, following its findings on detentions in Mukalla, threatened the "prosecution" of those involved in reporting detention-related violations.[36]

23. The Panel finds that UAE forces, the Yemeni Ministry of Defence, and other unidentified groups have engaged in intimidation and threats against detainees and those representing them.

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[31] Source: families and detainees

[32] For example, in one case, an individual was arrested, taken to al-Rayyan and was shown a list and asked to identify a specific unknown individual in that list as responsible for a recent security incident, and when he refused to do so, he was detained for several months. In another unrelated case, an individual, whose relative had recently been imprisoned in al-Rayyan, was requested to come to the base, asked to identify an individual on the list as AQAP, and he identified the individual despite knowing full well that he was not linked to AQAP. The Panel was informed he identified the individual to prevent being detained himself.

[33] See Article 4 and 5 of AP II and CA 3. ICRC, "Strengthening international humanitarian law: protecting persons deprived of their liberty. Concluding report", 32IC/15/19.1, October 2015. Jelena Pejic, Internment in armed conflict and other situations of violence, 87 (858) IRRC, June 2005.

[34] Specific details are omitted to protect detainee.

[35] Panel meetings with the protestors.

[36] Documents with Panel. See footnote 14. Following the release of HRW report on UAE detentions, the lead researcher's passport was circulated in the media stating that she was a Qatari affiliate. http://m.sahafah.net/show2924701.html. Even if this is not attributed to the UAE by the Panel, this demonstrates undue interference and lack of protection afforded to those reporting on violations.

X. Government of Yemen's complicity in abuses

24. The Government of Yemen is instrumental in, and is facilitating, continued violations by UAE military forces, in Yemen, by:

(a) The continued failure to acknowledge UAE detentions in Yemen,[37] even though forces under its supposed de jure control continues to engage in and facilitate such detentions and/or conduct joint arrest operations with the UAE;

(b) The failure to clarify the legal authority under which the UAE military forces, as an international force, continue to arrest and detain individuals in Yemen;

(c) The failure to assert jurisdiction and to control abuses in detention sites maintained by the UAE;

(d) The non-payment of salaries to its forces, which is essential in establishing its de facto authority over those forces, and by allowing the Saudi Arabia led-coalition to directly pay salaries or incentives to some of these forces operating with the UAE; and

(e) The failure to conduct a credible inquiry into its own forces alleged to have committed violations;[38] failure to conduct an inquiry into the UAE's conduct and curtail its conduct in so far as it relates to abusive practices; and failure to ensure safeguards when engaging in detainee transfers between the UAE and forces under its supposed de jure control.

25. The Government of Yemen has, during several meetings with the Panel, sought to distance itself from the legal responsibility accruing on the Government of Yemen for acts and omissions committed by the Saudi Arabia-led coalition in Yemen.[39] Yet, the Panel finds that:

(a) The Government of Yemen continues to be responsible for any internationally wrongful acts committed by the Saudi Arabia-led coalition and individual members of the Saudi Arabia-led coalition in Yemen;

(b) Saudi Arabia-led coalition member States are present and operating in Yemen, at the invitation of, and with the consent of, the Government of Yemen. The Government has full discretion to revoke or limit this consent, or to clarify the boundaries of its consent, to further the compliance of these forces with IHL and IHRL;[40] and

(c) The Government of Yemen is responsible for the consequent treatment and wellbeing of all detainees, especially those who have been transferred to UAE by forces under its de jure control.[41]

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[37] The Minister of Human Rights stated that "reports… about secret prisons in the south are baseless". http://arabfhr.org/2017/06/27/yemeni-human-rights-minister-denies-secret-prisons-in-aden-southern-yemen/?lang=en. The spokesman of the Aden police "acknowledged that the UAE played a positive and supportive role for many prisoners who were released by the security services in Aden and Hadramawt, pointing out that the role of the UAE "was limited to providing support to the Department of Aden security…" http://arabfhr.org/2017/06/27/yemeni-human-rights-minister-denies-secret-prisons-in-aden-southern-yemen/?lang=en

[38] According to the media, the Government of Yemen established a Commission, in June 2017, to "consider the allegations of violations of human rights in liberated areas and propose possible responses to those allegations and establish a mechanism to address and resolve any future problems in this regard." This Commission's findings are not yet public. http://arabfhr.org/2017/06/27/yemeni-human-rights-minister-denies-secret-prisons-in-aden-southern-yemen/?lang=en

[39] Meetings with Yemeni officials

[40] See Common Article 1 of the Geneva Conventions on the Government of Yemen's obligations. For consent related matters see *Democratic Republic of Congo v Uganda*.

[41] The Government of Yemen can absolve itself of its responsibility of internationally wrongful acts, if UAE forces in Yemen are classified as an occupying force (See Democratic *Republic of Congo v Uganda*. Although the President of Yemen did allege that the UAE is acting as an occupying force in Yemen, this was not repeated. http://www.middleeasteye.net/news/exclusive-yemeni-president-says-emiratis-acting-occupiers-1965874493

XI. Involvement of other States

26. As far as the Panel is aware, the UAE, in carrying out these operations, is working as a part of the Saudi Arabia-led coalition.[42] Thus, the following member States, especially, have responsibilities under Common Article 1 of the Geneva Conventions, that requires all parties to "ensure respect" for IHL: Bahrain, Djibouti, Jordan, Kuwait, Malaysia, Morocco, Saudi Arabia, Senegal and Sudan.[43]

27. To the extent, that the UAE detentions are being undertaken to gather information on AQAP or ISIS or other terrorist groups, partners of the UAE should take proactive steps to inquire and ensure that the information that it receives on the basis of partnership agreements or otherwise, is not obtained by torture, not only because such information is unreliable, but also because it violates these member States international obligations.[44] These member States also have a special responsibility under Common Article 1 of the Geneva Conventions to ensure respect for IHL. The United States and Europol[45] work with the UAE on countering terrorism, with the United States actively engaged with the UAE in Yemen.[46]

XII. Conclusions

28. The Panel finds that:

(a) It is unlikely that UAE military forces in Yemen are conducting arrest and detention operations without the knowledge of the Governments of the UAE and Yemen;

(b) The lack of public acknowledgement of the UAE's engagement in detention, by both governments, contribute to violations occurring with impunity by both UAE forces and its Yemeni collaborators. For the Yemeni forces, this denial guarantees the ability to operate without any foreseeable consequences for illegal conduct;

(c) That this and other information available in the public domain on UAE detentions should be sufficient for the Governments of Yemen and UAE to reconsider their respective public positions that the UAE does not maintain any detention facilities in Yemen; to comply with their obligations under international law to call for an immediate investigation on the involvement of their armed forces and state organs in these violations; and to take appropriate action as required under domestic and international law to prevent further abuses;[47] and

(d) Those who are in command and control of the UAE forces that engage in detention-related abuses in Yemen certainly fall within the designation criteria under paragraphs 17 and 18 of resolution 2140 (2014).

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[42] The UAE justified its presence in Yemen to the invitation made by President Hadi. UAE letter to Panel of 8 November 2017. The Panel notes that the United States provides that "the UAE deployed forces in Yemen to counter the spread of AQAP and ISIS in Yemen at the same time as it partnered with the Saudi-led Islamic Military Alliance to Fight Terrorism … UAE forces remained in Yemen to support local forces in counterterrorism operations." See https://www.state.gov/j/ct/rls/crt/2016/272232.htm. The Panel continues to welcome any clarifications provided by the UAE on the legal basis under which it maintains detention sites, in Yemen.

[43] For the list of States identified as partners in the Saudi Arabia-led coalition, see http://www.spa.gov.sa/1682071.

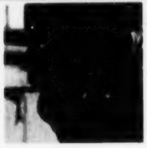
[44] For example, obligations under CAT.

[45] https://www.state.gov/j/ct/rls/crt/2016/272232.htm. The UAE has a strategic cooperation agreement on countering serious crime and terrorism for exchange of information and expertise between UAE and Europol.

[46] https://www.uae-embassy.org/about-uae/foreign-policy/uae-counterterrorism, http://www.hedayahcenter.org/media-details/49/news/51/latest-news/829/uae-maintains-robust-counter-terrorism-stance--us-state-department-country-reports-on-terrorism-for-2016.

[47] The Panel notes that in this respect, that the JIAT informed the Panel that it did not have the necessary mandate to investigate UAE detention related violations. Meeting in June 2017 in Saudi Arabia.

Appendix A to Annex 62: Summary information on individuals and entities that engaged with the UAE on detentions

Ser	*Entity*	*Name of Leader*	*Area of Responsibility*	*Image*[48]	*Relationship with the UAE*
1	Security Belt, Aden	Brigadier General Wadha Omar Abdulaziz Commander of Security Belt	Aden		• The transfer of detainees. • UAE pays salaries to Security Belt forces. • UAE supports training, intelligence and logistics. **Analysis:** • Collaborative relationship that goes beyond training, intelligence sharing and logistical support.
2	Aden Police Force	Major General Shallal Ali Shaye, Director of General Security Aden	Aden		• The transfer of detainees. • UAE provides logistical support and provision of other resources to Aden Police. **Analysis:** • Collaborative relationship. • Unknown if his work with the UAE on detainee transfers is undertaken in his personal capacity or on behalf of the Government of Yemen.
3	Shabwani Elite Forces	Lieutenant Colonel Mohammed al-Buhar al-Qumayshi Commander Shabwani Elite Forces	Shabwah		• Engaged in joint UAE arrest operations. • The transfer of detainees. **Analysis:** • There is a collaborative relationship between the UAE and the Shabwani Elite Forces on arrest and detentions.
4	Hadrami Elite Forces		Hadramawt		• Joint UAE arrest operations • Transfer of detainees. • UAE provides training, intelligence and other logistical support. **Analysis:** • Collaborative relationship that goes beyond training, intelligence sharing and logistical support.
5	20th Military Camp	Imam al-Nubi, Former commander 20th Military Camp	Aden		• UAE facilitated the release of detainee from al-Nubi. **Analysis:** • There is no collaborative relationship between UAE and al-Nubi on detentions. • Operated with relative independence from UAE.

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[48] Images from @demolinari at https://twitter.com/search?q=demolinari%20andsrc=typd.

CONFIDENTIAL ANNEX NOT FOR PUBLIC DISSEMINATION

Annex 63: Detentions by 'PSO', 'NSB', and other Houthi officials

Annex 64: Case studies on the indiscriminate use of explosive ordnance against civilian populated areas in Yemen and Saudi Arabia (2017)

I. Violations by Houthi-Saleh Forces

1. In 2017, the Panel received information on 163 reported[1] cases of the indiscriminate use of explosive ordnance (EO) against civilian populated areas in Ta'izz and Ma'rib, Yemen, and one case in Riyadh, Saudi Arabia, that are attributable to Houthi-Saleh forces. The Panel investigated ten potential indiscriminate attacks.[2] Full case studies for three incidents are included as shown in table 64.1, and case study summaries for six incidents are included in table 64.2. These incidents demonstrate that parties to the conflict continue to engage in the apparent indiscriminate use of EO in proximity to the civilian population.

2. The Panel arrived at its conclusions and findings, in respect of its findings, based on its own independent investigations and information available in the public domain. If the Houthi-Saleh political or military leadership can provide verifiable information on the military objectives sought to be achieved that may counter the Panel's conclusions and findings, then the Panel stands ready to review them.

3. The Houthi-Saleh political and military leadership has not responded to Panel requests for information.

Table 64.1

Full case studies of the indiscriminate use of EO against civilian populated areas

Appx	*Date*	*Location*	*Incident and target*	*Type of explosive ordnance*	*Civilian casualties*
A	29 May 2017	Al-Nour, Ta'izz	Civilian neighbourhood	▪120mm high explosive (HE) mortar bomb	1 dead 7 injured
B	6 Sept 2017	Al-Rawda, Ma'rib	Civilian neighbourhood	▪120mm HE mortar bomb	3 injured
C	11 Nov 2017	Riyadh, Saudi Arabia	Civilian airport	▪Short-range ballistic missile	0
D	2 Nov 2017	Onsowa, Ta'izz	Civilian neighbourhood	▪120mm HE mortar bomb	5 dead 2 injured

4. In the ten incidents investigated by the Panel it finds that:

(a) The damage observed in the available imagery is consistent with the type of damage caused by land service ammunition (for example, motor bombs and artillery shells);

(b) In some cases, although the Panel was unable to exactly identify the type of explosive ordnance based on the available information, the Panel is almost certain that the explosions were not due to gas explosions, the initiation of improvised explosive devices (IED), the initiation of unexploded ordnance (UXO) or the initiation of abandoned explosive ordnance (AXO). The locations of the explosions were in areas of conflict and within the range of weapons from known enemy positions of the military forces participating in the conflict;

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[1] These cases were documented and verified by Panel sources. The Panel can share further information with the Committee, with the consent of its sources.

[2] The Panel selected these 18 cases based on the availability of technical evidence, imagery, witnesses, medical records, GPS coordinates, and the ability of Panel investigators to reach the area. Yet, in only 10 did technical evidence confirm the use of explosive ordnance.

(c) In all the cases investigated, there was no demonstrable evidence that the civilians in, or near these objects, who are prima facie immune from attack, had lost their civilian protection;

(d) Even if in some of the cases that follow, the Houthi-Saleh fighters, or the Abu al-Abbas group (for incident in appendix D), have targeted legitimate military objectives, the Panel finds that it is highly unlikely that IHL principles of proportionality, and precautions in attack were respected in these incidents; and

(e) The cumulative effect on civilians and the civilian object demonstrates that even if precautionary measures were taken, they were largely inadequate and ineffective.

5. The Panel also concludes that:

(a) In the absence of any verifiable information from Houthi-Saleh forces, the evidence gathered strongly demonstrates that Houthi-Saleh forces engaged in the indiscriminate use of EO in densely populated civilian areas, in violation of the principles of IHL;[3]

(b) In their use of SRBM, Houthi-Saleh forces failed to take account of the inherently indiscriminate nature of the weapon in that:

(i) SRBM are specifically designed to be area weapons, as precision accuracy cannot be guaranteed;

(ii) Since the blast and fragmentation danger areas are primarily based on the size and design of the explosive warhead, this missile's likely impact on civilians was foreseeable, especially when directed at civilian populated areas; and

(iii) As such weapons have a known Circular Error Probability (CEP)[4] of up to 1,000m, they should not be used against targets within 1,000m of the civilian population.

6. The Panel stands ready to provide the Committee with further information if requested, but in the interest of brevity, provides only summaries of the cases in table 64.2 below.

Table 64.2
Summary case studies of the indiscriminate use of EO against civilian targets

Ser	*Date*	*Location*	*Incident and target*	*Type of explosive ordnance*	*Civilian casualties*
E	18 Jan 2017	Al-Nour, Ta'izz	Residential area	120mm HE mortar bomb	9 dead 8 injured
F	21 May 2017	Al-Jahmila, Ta'izz	Residential area	HE EO TBC	2 dead
G	21 May 2017	Tha'baat, Ta'izz	Residential area	HE EO TBC	3 dead 3 injured
H	21 May 2017	Al-Hamaira, Ta'izz	Commercial area	HE EO TBC	2 dead 5 injured

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[3] Customary international law, which binds Houthi-Saleh forces, requires parties to conflicts to distinguish between civilians and combatants. The International Court of Justice (ICJ) has held that "indiscriminate shelling is in itself a grave violation of humanitarian law" Case Concerning Armed Activities on the Territory of the Congo (Democratic Republic of Congo v. Uganda), Judgment of 19 December 2005, para. 208.

[4] The CEP is a measure of a weapon system's precision. It is defined as the radius of a circle, centered on the mean, whose boundary is expected to include the landing points of 50% of the missiles fired.

Ser	*Date*	*Location*	*Incident and target*	*Type of explosive ordnance*	*Civilian casualties*
I	30 Jun 2017	Al-Jumhuri, Ta'izz	Residential area	106mm RCL[5]	1 dead 9 injured
J	21 Sep 2017	Senei, Ta'izz	Residential area	RPG-7 variant	0

7. IHL requires military commanders and those responsible for planning and executing decisions regarding attacks to take all feasible precautions to avoid, and in any event to minimize, incidental loss of civilian life, injury to civilians and damage to civilian objects.[6] Unless Houthi-Saleh military or political forces provide evidence to the contrary, the Panel finds that there is compelling evidence that the commanders of the forces involved failed to take all feasible precautions to avoid or to minimize, incidental loss of civilian life, injury to civilians and damage to civilian objects.

8. The Panel also documented the use of indiscriminate use of EO against civilian houses. The Panel received 161 reported cases where Houthi-Saleh forces have allegedly used explosive ordnance to intentionally damage or destroy houses (figures 64.1 and 64.2).

Figure 64.1

Example of damage to house in Ta'izz caused by indiscriminate use of EO

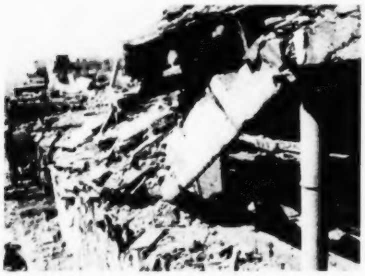

Figure 64.1

Example of damage to house in Ta'izz caused by indiscriminate use of EO

9. The indiscriminate use of explosive ordnance against civilian locations in Yemen and Saudi Arabia committed by the Houthi-Saleh forces, falls within paragraph 17 and/or paragraph 18 of resolution 2140 (2014). Member States should consider the continued occurrences of widespread civilian casualties, including children, because of the indiscriminate use of EO is a veritable threat to peace, security, and stability in Yemen.

10. Given that this regular and routine occurrence of use of EO cannot occur without at least the continued acquiesce of its leadership, the Security Council should consider expanding the narrative summary of the reasons for the listing of Abdulmalik al-Houthi (YEi.004) to reflect the threats to peace, security, and stability associated with this indiscriminate use of EO. In this context, the Council should also consider:

(a) The threats issued by the leadership of the Houthi-Saleh forces, including the chairman of the supreme revolutionary committee, Mohammad Ali al Houthi, who threatened further attacks on oil installations in Saudi Arabia, and commercial ships carrying oil, as reprisals, which are prima facie civilian objects immune from attack.[7] Saleh al Samad, head of the supreme political council, also referred to targeting of "capitals" of countries as reprisals;[8] and

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[5] Recoilless Rifle

[6] See Article 13(1) of Additional Protocol II to the Geneva Conventions and CIHLR 15 - 22

(b) The political office also reportedly issued a statement that *"All airports, ports, border crossings and areas of any importance to Saudi Arabia and the UAE will be a direct target of our weapons, which is a legitimate right"*.[9] These statements do not distinguish between civilian objects and military objectives. Intentionally launching attacks against civilians and civilian objects violates IHL.[10] As far as the Panel is aware, these statements were not denounced by Abdulmalik al-Houthi (YEi.004).[11]

11. The Panel finds:

(a) That after such a prolonged period of conflict, Abdulmalik al-Houthi (YEi.004) would be aware of the ballistic performance of the weapons systems used by their forces and their target effects. Yet, as the Panel reported in S/2017/81, and has identified in this report, multiple incidents of the indiscriminate use of EO against the civilian population of Ta'izz and Ma'rib have continued during 2017. These incidents attributable to the Houthi-Saleh forces, are violations of IHL and constitute a threat to peace, security and stability of Yemen;

(b) That in respect of the missiles fired at Saudi Arabia, even if one allows for the possibility that Abdulmalik al-Houthi (YEi.004) did not consent to each individual missile strike against Saudi Arabia, he is responsible for a policy adopted by the Houthi-Saleh leadership that allows for the continued use of these missiles against Saudi Arabia; and

(c) Given the foreseeable political and military repercussions, it is inconceivable that the missile launched on 4 November 2017 at King Khalid International Airport, could have taken place without the knowledge and prior consent of Abdulmalik al-Houthi (YEi.004). The Panel finds that this missile strike violated IHL and constituted a threat to peace, security and stability of Yemen.

II. Violations by anti-Houthi forces (including the Abu al-Abbas group)

12. Anti-Houthi forces also violate IHL when it establishes military installations in densely populated civilian areas as they are exposing civilians to the dangers arising out of conflict.[12] If done intentionally and systematically, then it is likely that civilians and civilian objects are being used as shields to avoid attack, which is in violation of IHL.[13] In four incidents in which EO detonated within the civilian population, anti-Houthi forces had established their checkpoints in densely residential areas within 700m of the impact points. The Panel has also investigated one case of use of explosive ordnance where, based on technical evidence, it appears that the a 120mm high explosive mortar bomb was fired from an area under the control of anti-Houthi forces, probably areas under the control of Abu al-Abbas.[14] On 2 November 2017, this mortar bomb detonated in al-Onsowa neighbourhood, Ta'izz, killing five children and injuring two others, highly likely by Abu al-Abbas group (appendix D).

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[7] https://www.facebook.com/permalink.php?story_fbid=163853657542656andid=1493545956592229

[8] http://www.ansarollah.com/archives/124112.

[9] https://www.alaraby.co.uk/english/news/2017/11/8/houthis-threaten-to-attack-uae-and-saudi-airports

[10] Common Article 3 to the Geneva Convention, CIHL R 1- 10.

[11] In at least one televised speech al-Houthi is reported to have stated that *"his ballistic missiles were capable of reaching the United Arab Emirates' capital of Abu Dhabi and anywhere inside Saudi Arabia... If the Saudi regime and with a green light from the US attack Hodeidah then we have to take steps that we haven't taken before"*. See http://www.arabnews.com/node/1161156/middle-east.

[12] See for example, CIHL R Rules 22 and 23.

[13] See for example, CIHL R 97.

[14] al-Onsowa, 2 November 2017.

Appendix A to Annex 64: Mortar bomb strike on civilian area, al-Nour, Ta'izz, (29 May 2017)

1. At approximately 23:00 hours on 29 May 2017, one 120mm HE mortar bomb detonated in al-Nour, Ta'izz, killing one civilian and injuring seven others, including four children.

2. Analysis of imagery of fragmentation (figures A.64.1 and A.64.2) recovered from the explosion indicates that the explosive ordnance used was a 120mm HE mortar bomb. All parties to the conflict have access to this type of weapon and ammunition.[15]

3. Given that the nearest anti-Houthi forces checkpoint was approximately 500m from the house and anti-Houthi forces control the area, it is highly likely that the perpetrators were Houthi-Saleh forces.

Figure A.64.1

Post explosion - Tail fragment

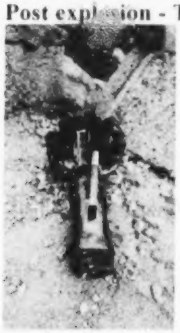
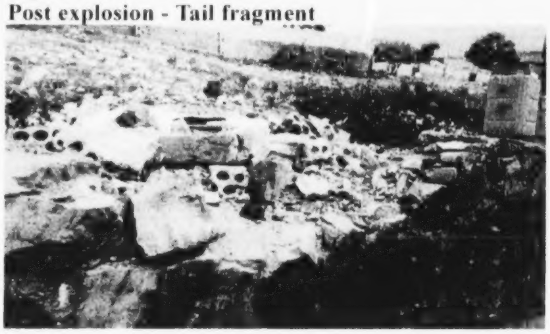


Figure A.64.2

Post explosion - Tail fragment



4. This civilian, neighbourhood has now been hit over three times since the beginning of the conflict.

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[15] Similar in design to the round shown here: http://www.armaco.bg/en/product/mortar-bombs-c19/120mm-mortar-rounds-p474. The Panel does not, however, suspect this company of any involvement in the conflict. It is for illustrative purposes only.

Appendix B to Annex 64: Mortar strike on a residential building, al-Rawda, Mar'ib, (6 September 2017) (c)

1. At approximately 12:00 hours on 6 September 2017, one 120mm HE mortar bomb detonated in a residential building in al-Rawda, Ma'rib, injuring three children.

2. Analysis of imagery of fragmentation (figures B.64.1 and B.64.2) recovered from the explosion indicates that the explosive ordnance used was a 120mm HE mortar bomb. All parties to the conflict have access to this type of weapon and ammunition.

Figure B.64.1
120mm HE mortar bomb fragment

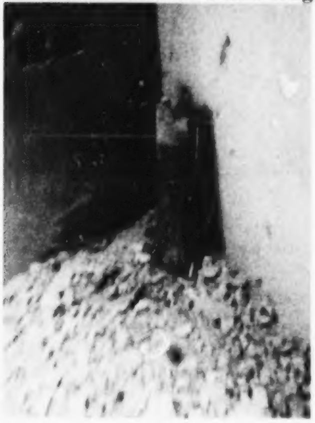
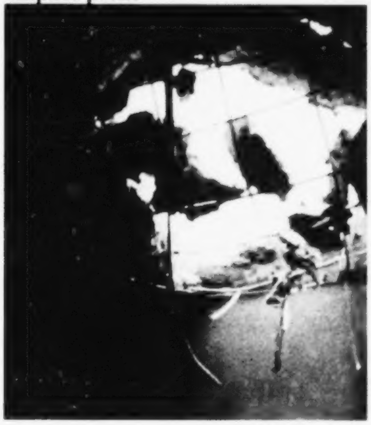


Figure 2.B.64
Impact point



3. The building is in a neighbourhood controlled by the Government of Yemen. The closest government establishment is a police station located approximately 700m from the impact point. The Panel finds, based it is highly likely that the perpetrators were Houthi-Saleh forces.

Appendix C to Annex 64: SRBM missile on King Khalid International Airport, Riyadh, Saudi Arabia (4 November 2017)

1. At 20:07 hours (local time) on 4 November 2017 a short-range ballistic missile (SRBM) was launched against King Khaled International Airport (KKIA) in Riyadh.[16]

2. The Panel finds it almost certain that Houthi-Saleh forces were responsible for launching the attack based on:

(a) Media reports quoting Houthi-Saleh officials, who stated that their target was KKIA;[17]

(b) No denial in the public domain by the Houthi-Saleh forces;

(c) Technical analysis of the SRBM (see annex 36); and

(d) The flight path of the SRBM.[18]

3. The Panel finds it almost certain that Houthi-Saleh forces targeted the KKIA, which is a civilian airport, with some military equipment and installations. While the Houthi-Saleh forces insisted after the missile launch that the target was the military installations within the airport, the Panel notes that the Houthi-Saleh commanders should have reasonable grounds to know the weapons unpredictable effects when directed at a civilian establishment.

4. The Panel finds that SRBM is not capable of precision targeting at the 1,065km range this missile travelled as it has a Circular Error Probability of 750m to 1,000m. SRBM are specifically designed to be area weapons, as precision accuracy cannot be guaranteed. Since the blast and fragmentation danger areas are primarily based on the size and design of the explosive warhead, this missile's likely impact on civilians was foreseeable, especially when directed at civilian populated areas.[19]

5. Consequently, the commanders who authorized the launch of the missile were reckless and failed to take into consideration, or wilfully disregarded, the fact that a disproportionately number of civilians and civilian objects could be affected by targeting KKIA.

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[16] 24°57'29.5272"N, 46°42'2.8044"E.

[17] https://www.sabanews.net/ar/news478520.htm.

[18] "The General Authority of Civil Aviation said some remnants of the missile landed inside the airport perimeter." http://www.arabnews.com/node/1188336/saudi-arabia. Another remnant landed in a civilian house in a populated area in Riyadh.

[19] Over 40 airlines operate from KKIA and according to the latest statistics (2015) over 20 million passengers used the airport in 2015. The airport is 35km from the densely-populated city of Riyadh. https://www.riyadh-airport.com.

Appendix D to Annex 64: Mortar strike on al-Onsowa, Ta'izz (2 November 2017)

1. On 2 November 2017, a 120mm high explosive mortar bomb detonated in al-Onsowa neighbourhood, Ta'izz, killing five children and injuring two others.

2. Analysis of imagery of fragmentation (figures D.64.1 and D.64.2) recovered from the explosion indicates that the explosive ordnance used was a 120mm high explosive mortar bomb. All parties to the conflict have access to this type of weapon and ammunition.

Figure D.64.1
120mm HE mortar bomb tail unit

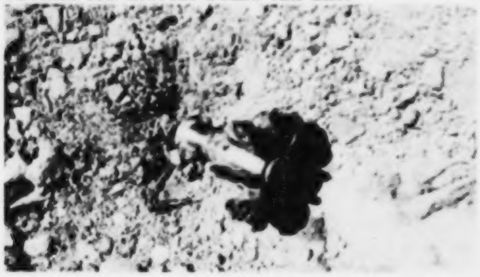
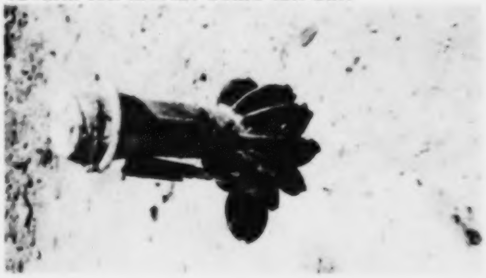


Figure D.64.1
120mm HE mortar bomb tail unit



3. The distinctive fragmentation pattern (figure D.64.3) provides evidence as to the direction the mortar bomb was fired from. The Panel finds that the firing point was to the South East of the impact point (overview at figure D.64.4).

Figure D.64.3
82mm HE mortar bomb tail unit[20]

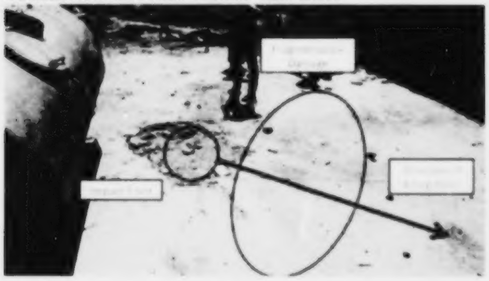
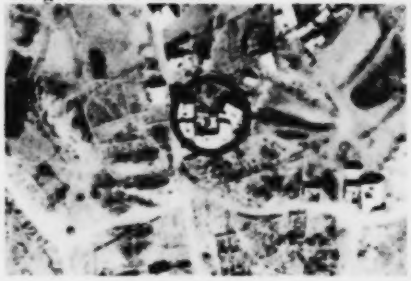


Figure D.65.4
Target area overview[21]



4. Abu al-Abbas forces are the only armed group operating in the area where the mortar firing point was located (see figure D.65.5).

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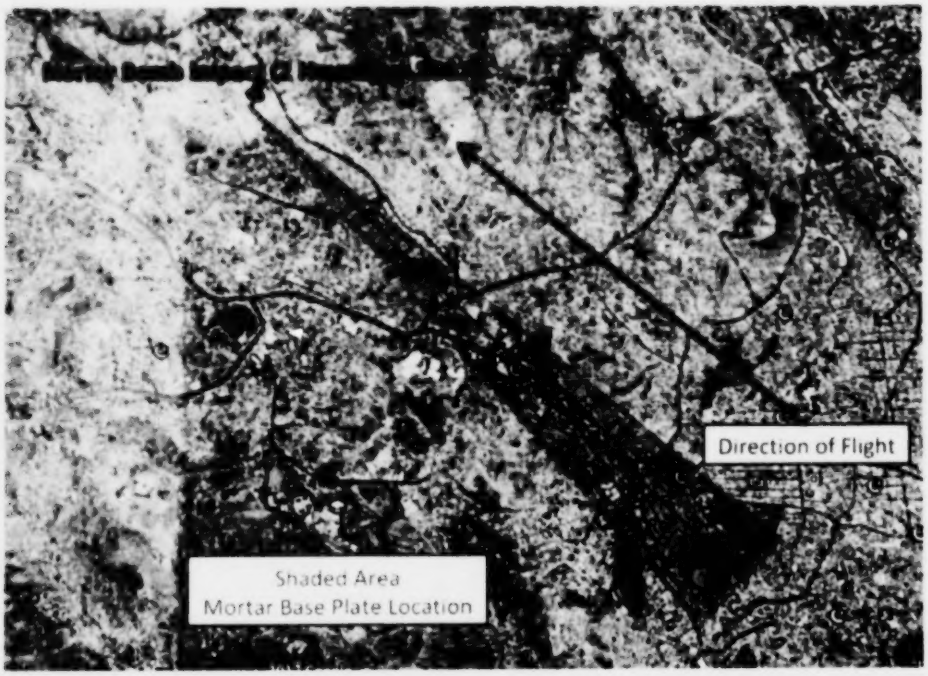
[20] The top of the image is North

[21] Ibid

Figure D.65.5
Mortar base plate location[22]


Direction of Flight
Shaded Area
Mortar Base Plate Location

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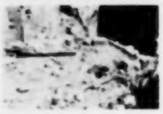
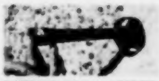
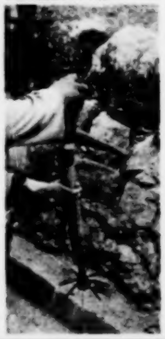
[22] The Mortar Base Plate is the term used to describe the geo-position of the mortar from where the rounds originated

Appendix E to Annex 64: Imagery supporting findings for case studies E to J - 9

Table E.64.1

Imagery supporting findings for case studies E to J[23]

Case	*Date*	*Location*	*Image*	*Type of explosive ordnance*	*Civilian casualties*
E	18 Jan 2017	al-Nour, Ta'izz		•120mm HE mortar bomb	9 dead 8 injured
F	21 May 2017	Jamila		•HE based on crater and fragmentation splatter	2 dead
G	21 May 2017	Thabaat, Ta'izz		•HE based on crater and fragmentation splatter	3 dead 3 injured
H	21 May 2017	al-Himaira, Ta'izz		•HE based on crater and fragmentation splatter	2 dead 5 injures
I	30 Jun 2017	al-Jumhuri, Ta'izz		•RCL tail unit	1 dead 9 injured
J	21 Sep 2017	Senei, Ta'izz		•RPG tail unit	-

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[23] Imagery for this annex was provided by residents, human rights investigators and other confidential sources who were in the area or who visited the area in its immediate aftermath. This imagery can be made available to the Committee for further examination.

Annex 65: IHL and HR violations relating to detentions by Yemeni military and security forces in Yemen

I. Terminology

1. In this annex, the terms "arrest", "detention", and "detainee" are used to describe the act of depriving an individual of his liberty, the consequential deprivation of liberty and those subjected to the deprivation of liberty, respectively, without prejudice to the lawfulness of those acts and irrespective of whether detainees are subjected to internment[1] or criminal detention.[2] The Panel received information from both former and current detainees, but because of veritable threats against detainees and their families, the Panel will refrain from providing more information on their current situation. The Panel defines the terms arbitrary arrest and detention, torture, enforced disappearance, and secret detentions, in accordance with international law and jurisprudence and, where such is unavailable, in line with standards adopted by UN treaty bodies. See annex 62 for an elaboration of these terms.

II. Yemeni military and security forces associated with violations

2. This annex contains information with respect to individuals and leaders who have committed or who hold command responsibility over individuals and entities that have committed violations of IHL and IHRL. These violations include arbitrary arrest and detention, failure to respect due process, torture, ill treatment, enforced disappearance, and arbitrary deprivation of life (table 65.1). The Government of Yemen identifies these individuals and entities as organs of the State (table 65.2 and 65.3).[3]

Table 65.1
Violations summary[4]

Serial	*Organization / individual*	*No of individuals investigated*[5]	*Arbitrary arrest / detention*	*Enforced disappearance*	*Deaths*	*Torture*	*Ill treatment*	*Denial of medical assistance*	*Detainee transfers with UAE*
1	Shallal Ali Shaye	5	✓	✓		✓	✓	✓	✓
2	Abdul Ghani Shaalan	7		✓	✓		✓	✓	
3	Ali Abdullah Taher	2		✓					
4	Ghassan al-Aqrabi	100+		✓			✓	✓	✓
5	Imam al-Nubi	5	✓	✓	✓	✓	✓		
6	Security Belt in Aden	6	✓	✓		✓	✓		✓
7	Security Belt in Lahij	7	✓	✓	✓				
8	Shabwani Elite Forces	2	✓	✓					✓
9	Hadrami Elite Forces	3	✓	✓					✓

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[1] The term 'internment' refers to detention for security reasons in situations of armed conflict, i.e. the non-criminal detention of a person based on the serious threat that his or her activity poses to the security of the detaining authority in relation to an armed conflict. See Commentary to Common Article 3.

[2] This means detention related to a criminal process. The Panel is only concerned those detentions linked to the conflict in Yemen and where IHL and HR violations can be established.

[3] Meeting with Ministry of Interior, 2 October 2017. The conduct of any State organ is considered an act of that State under international law. See Article 4 of Articles on State Responsibility.

[4] 1, 4, 6, 8 and 9, in their joint operations with the UAE, highly likely operated outside the Government of Yemen's command and control.

[5] Some of the same individuals are affected by more than one listed perpetrator.

Table 65.2
Summary of entities investigated (2017)

Location	*Entity*	*Leader*	*De jure responsibility*	*De facto responsibility*
Aden	Security Belt	Brigadier General Wadha Omar Abdulaziz	Government of Yemen	UAE
Lahij	Security Belt	Colonel Hader al-Shukatry	Government of Yemen	UAE
Hadramawt	Elite forces	TBC.	Government of Yemen	UAE
Shabwah	Elite forces	Lieutenant Colonel Mohammed Salem al-Buhar al-Qomaishi	Government of Yemen	UAE

Table 65.3
Summary of individuals investigated (2017)

Location	*Individual*	*Role*	*De jure responsibility*	*De f[illegible]sponsibility*
Aden	Major General Shallal Ali Shaye	Director of General Security, Aden	Government of Yemen	U[illegible]n if his work with U[illegible]tainee transfers are undertaken in his personal capacity or clandestinely on behalf of the Government of Yemen.
Aden	Ghassan al-Aqrabi	Supervisor of Bir Ahmed I and II	Unknown.[6]	UAE and Security Belt, Aden.
Aden	Ayman Tariq	Manager of Bir Ahmed I	Unknown.[7]	UAE and Security Belt, Aden.
Aden	Imam al-Nubi[8]	Former Commander of Camp 20	Government of Yemen.[9]	N.A
Marib	Brigadier General Ali Abdullah Taher	Former Director of Security, Marib	Government of Yemen	Investigations continue.
Marib	Colonel Abdul Ghani Shaalan	Special Forces Commander, Marib	Government of Yemen	Investigations continue.

A. Major General Shallal Ali Shaye

3. The Government of Yemen continues to consider Major General Shallal Ali Shaye, the Director of General Security in Aden, as an official of the Government of Yemen. He falls under the responsibility of the Ministry of Interior. He continues to receive orders directly from President Hadi. Shallal Ali Shaye supervises:

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[6] It is possible that no entity would claim de jure responsibility as Bir Ahmed I was a secret detention site in that authorities, until late October 2017, denied its existence to families, and those in that facility were forcefully disappeared until their relocation to Bir Ahmed II.

[7] Ibid.

[8] Imam Ahmed Muhammed Abdu al-Salwy.

[9] Camp 20 was under the oversight of the Security Belt and the Director of General Security, Aden.

(a) Aden Police[10] and

(b) Security Belt of Aden.[11]

4. While Major General Shallal Ali Shaye maybe under de jure command and control of the Government of Yemen, he also continues to work simultaneously with the UAE on detentions. For example,

(a) At least four individuals detained at a house under his control in at-Tawahi were subsequently transferred to the UAE, where they were subjected to enforced disappearance for a prolonged period;[12] and

(b) Major General Shallal Ali Shaye facilitated the release of other detainees from the custody of the UAE.[13]

5. Arbitrary arrests and deprivations of liberty, torture, enforced disappearance and other due process violations also occur in a house under the control of Major General Shallal Ali Shaye in At-Tawahi.[14] Those detained in this house were kept between 12 to 72 hours and were then transferred elsewhere, including to Bir Ahmed I and the UAE detention site in Bureiqa.

6. The Panel finds that the deprivations of liberty in the house under his control occur outside the legal framework of arrests and detentions established by the Yemeni legal system.

7. The Panel continues to investigate the role and influence of the UAE on the Aden Police outside its interaction with Major General Shallal Ali Shaye.[15]

B. Security Belt of Aden

8. The Security Belt in Aden was established by President Hadi. The Government of Yemen considers the Security Belt as an organ of the State under the responsibility of the Ministry of Interior.[16] The Security Belt of Aden work closely with the UAE in respect of deprivations of liberty. For example:

(a) There were multiple detainees transferred between UAE and the Security Belt custody;[17]

(b) The Security Belt facilitated the arrest and release of detainees in UAE custody;[18]

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[10] The Aden Police receive their salaries from the Government of Yemen, although as at October 2017, they had not received them for 8 months. Panel meeting with the Deputy Police Chief of Aden on 2 October 2017.

[11] Confidential official sources. The Security Belt forces receive salaries from the UAE. Panel meeting with Brigadier General Wadha Omar Abdulaziz on 2 October 2017.

[12] Sources: detainees and family members. Three of the detainees were interrogated on the basis they were supportive/members of AQAP.

[13] Sources: detainee and family members.

[14] Detainees and their families. One detainee informed the Panel that UAE soldiers also participated in interrogations at this house. The Panel continues to investigate. Media reports on detention-related abuses undertaken by Shallal Ali Shaye include http://hournews.net/news.php?id=79051, https://www.hunaaden.com/news41410.html, https://theyemen.net/وفاة-معتقل-في-سجن-سري-لشلال-شايع-بعد/.

[15] Aden police state that the UAE had played a positive and supportive role for many prisoners who were released by the security services in Aden and Hadramawt. The UAE provided the "Department of Aden security, cars and vehicles, and the rehabilitation and furnishing of police stations." See also http://www.emirates247.com/news/emirates/uae-offers-further-support-to-aden-police-2017-08-09-1.657318

[16] Meeting with Ministry of Interior and the Panel on 2 October 2017.

[17] In all cases documented by the Panel in Aden, the Security Belt was identified as the entity that arrested individuals, whether those individuals were then transferred to Major General Shallal Ali Shaye's custody, to the UAE, or the Mansoora Central Prison.

[18] In Aden, the Panel did not document any joint arrest operations with UAE. It has, to date, not found any individuals released by the UAE directly, without the Security Belt's participation.

(c) In Bir Ahmed I, while it is said to be under the control of the Security Belt, UAE officers exerted significant amount of control, for example by removing detainees from the site (figure X.1);

(d) In one incident investigated the same detainee was tortured by the Security Belt, then handed over to the UAE, where the UAE continued to torture him, demanding the same information.

9. Yemeni official sources (military and civilian) informed the Panel that the Security Belt in Aden is not under the de facto control of the Government of Yemen, but the UAE. The salaries of the Security Belt are paid by the UAE. One military source informed the Panel that while an officer of General Staff rank level receives around YER 30,000 (US$120) every 2 – 3 months as salary from the Government, the basic salary for a soldier in the Security Belt is SAR 3,500 (US$934) per month from the UAE. Thus, official confidential sources state that the Government is therefore unable to exercise operational control over these forces.

C. Ghassan al-Aqrabi and Ayman Tariq

10. The Panel finds that Ghassan Abdul Aziz al-Aqrabi and Ayman Tariq[19] were responsible for the continued arbitrary deprivation of liberty of over 100 detainees who were in Bir Ahmed I, which was established around August 2016 (figure 65.1 and 65.2).

11. These persons were detained without access to their families or legal representation. They had no access to any entity, judicial or administrative, to challenge their detention. They were not provided reasons for their continued detention, and all individuals investigated by the Panel had previously been subjected to detention-related abuses and torture by identified authorities (annex 61).[20]

Figure 65.1
Bir Ahmed detention location (21 July 2016)[21]

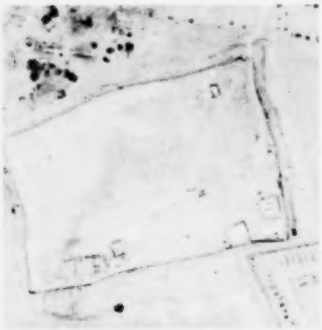
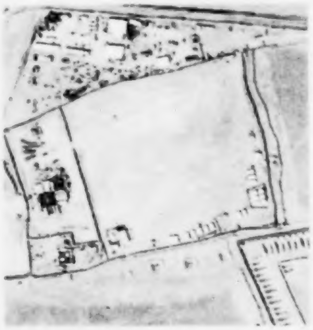


Figure 65.2
Bir Ahmed detention location (07 November 2017)[22]



12. In October 2017, the detainees commenced a hunger strike calling for their release or referral to a judicial process. On 12 November 2017, they were transferred to Bir Ahmed II, a detention site funded by UAE, located close to Bir Ahmed I (figure 65.1), also said to be administered and supervised by Ghassan al-Aqrabi. On 13 November 2017, their case files were handed to the Attorney General of Yemen, Ahmed al-Awash. In December 2017, some detainees had access to their families and some others were released around the last week of December 2017.

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[19] The rationale for their selection as detention facility administrators seems to be that the detention facility is established within an area under the control of the al-Aqrabi family. The Panel continues to investigate the activities of this family.

[20] Information withheld to protect detainees.

[21] Source: Imagery obtained by the Panel. Detainees and families of detainees assisted the Panel to identify the location.

[22] Source: Imagery obtained by the Panel. Those visiting the detention center assisted the Panel to identify the location. It is also based on information provided by the detainees of a new detention site being built next to Bir Ahmed I and confirmed by satellite imagery.

Figure 65.3
Visit of Attorney General and Major General Shallal Ali Shaye to Bir Ahmed II[23]

13. The Panel cannot confirm that all detainees in Bir Ahmed I were transferred to Bir Ahmed II given that the identities of the detainees in Bir Ahmed I were not made available by the detaining authorities and the Government of Yemen.

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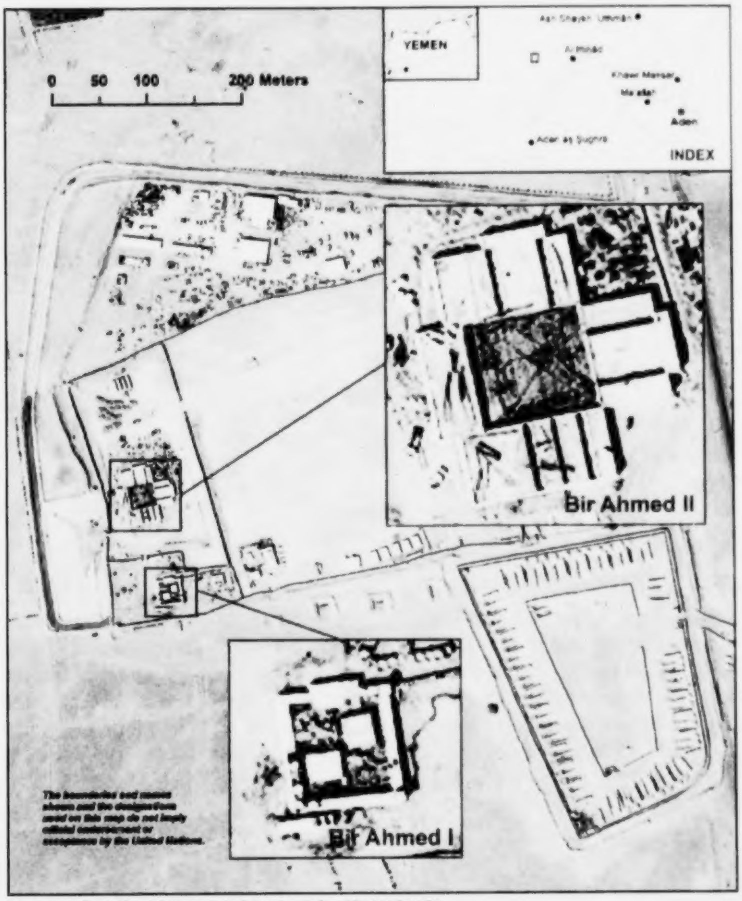
[23] https://twitter.com/demolinari/status/930092238117380096. The Attorney General is third from right. Brigadier General Wadha Omar is behind the Attorney General to the left. Major General Shallal Ali Shaye is second from right.

Figure 65.4
Bir Ahmed I and Bir Ahmed II[24]



Location source: Panel of Experts for Yemen, United Nations Security Council Sanction Committee
Prepared by Geospatial Information Section, ICTD, DFS, United Nations, December 2017
Imagery source: WV1 acquisition date 2017-11-07 (C) DigitalGlobe

D. Security Belt of Lahij

14. The Government of Yemen considers the Security Belt as an instrument of the State under the responsibility of the Ministry of Interior.[25] In detention related investigations, the Panel has not yet identified any detainee transfers between the UAE and the Security Belt in Lahij.

15. The Panel finds that in 2017, the Security Belt in Lahij was responsible for the death of a 16-year-old, enforced disappearance of another individual, and four extra-judicial executions. The Security Belt in Lahij was also involved in the death of a 14-year-old child whose younger brother was alleged to be an AQAP affiliate. For Colonel Hader al-Shukhaty is the Commander of the Security Belt in Lahij (see annex 6)

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[24] Source: Imagery obtained by the Panel, 7 November 2017.

[25] Meeting with Ministry of Interior and the Panel on 2 October 2017. The Security Belt in Lahij is under the supervision of Saleh al-Subaihi, Director of General Security, Lahij. Official confidential UAE sources.

Figure 65.5
Colonel Hader al-Shukhaty[26]

E. Colonel Abu Mohammad Abdul Ghani Shaalan[27]

15. The Special Forces Commander is a formal position of the Government of Yemen, established prior to the conflict and is under the operational command and control of the Government of Yemen.

16. The Panel investigated the involvement of Colonel Abu Mohammad Abdul Ghani Shaalan, the Special Forces Commander of Ma'rib and his forces, in an incident relating to the death of a 15-year old child and injuries to an 11-year old child.[28] These incidents occurred when the Special Forces attempted to disperse a demonstration in Ma'rib, in October 2017, for which prior security approval was obtained.[29] A clash broke out between the protesters and the Special Forces following the death of the 15-year-old.[30] The Special Forces refused access of the families to the injured child in the hospital for a week, refused to release the body of the dead child for a prolonged period, and forcefully disappeared five individuals for prolonged periods, four of whom were subsequently released. The release of the other is pending tribal negotiations.[31]

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[27] Originally from Hajjah Governorate. https://web.facebook.com/محبي-العقيد-عبدالغني-شعلان-قائد-قوات-الأمن-الخاصة-مارب-1836740393277690/?_rdc=1and_rdr.

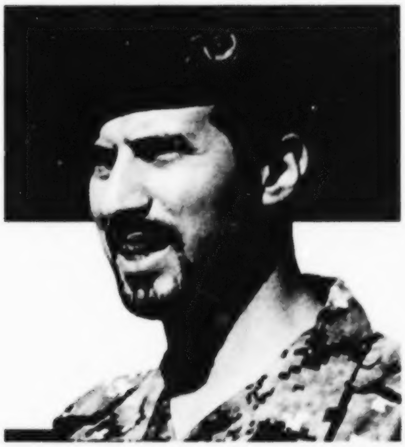
[28] Eye-witnesses identified Shaalan at the site of the incident.

[29] Document with Panel.

[30] The events surrounding the death of the child is unclear. It is possible that the child resisted arrest. It is also clear that there was an armed exchange as one officer died and another was seriously injured (medical sources).

[31] Information as at 10 December 2017. The Panel was informed of other serious detention related abuses undertaken by the Special Forces in Ma'rib, which are not documented here to protect individuals.

Figure 65.6
Colonel Abu Mohammad Abdul Ghani Shaalan[32]



F. Brigadier General Ali Abdullah Taher

17. Ali Abdullah Taher was the Director for General Security in Ma'rib. This is an official post under the control of the Government of Yemen. During his tenure, he was directly involved in one incident where he demanded a "suitable exchange" for the release of a detainee in his custody, Mustafa Hussain al-Mutawakel.[33] No other reasons were provided for the refusal to release al-Mutawakel.

18. Mostafa Huseain al-Mutawakel was at the time of his arrest the President for the General Authority for Investment of Yemen and a Professor at the University of Sana'a. He was arrested on 27 April 2017 at Bab-al-Falej checkpoint in Ma'rib.[34] The checkpoint is under the control of security forces loyal to the Government of Yemen. Al-Mutawakel was travelling from Sayun to Sana'a on board a civilian bus. His family is unaware of his whereabouts since his arrest.[35] There is no evidence that al-Mutawakel had lost his civilian status or protection at the time of arrest (see annex 66). IHL allows civilians to be detained if they pose an imminent security threat and then, only for as long as that threat is existent. Any attempt to detain a civilian until a suitable prisoner exchange can take place may also amount to hostage taking.

18. The Panel documented another arrest and detention at Bab-al-Falej checkpoint, where the detainee was also forcefully disappeared after the detention, but was subsequently released following tribal negotiations. There were no reasons provided for his arrest other than that he was related to a prominent family aligned with the Houthis.

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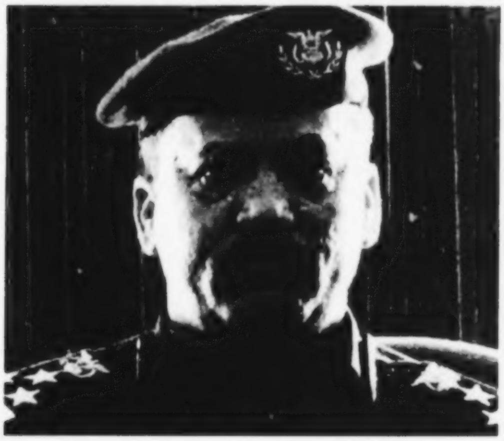
[32] Image: https://web.facebook.com/محبي-العقيد-عبدالغني-شعلان-قائد-قوات-الأمن-الخاصة-مارب-1836740393277690/?_rdc=1and_rdr.

[33] The name is divulged with the consent of the family.

[34] At approximately 15°21'25.48"N, 45°19'45.12E.

[35] In the latter half of 2017, the Panel was informed by official sources that Mustafa Hussain al-Mutawakel had been transferred to an as to yet unidentified detention facility in Saudi Arabia. The Panel continues to investigate.

Figure 65.7
Ali Abdullah Taher[36]



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[36] Image: https://web.facebook.com/محبي-العقيد-عبدالغني-شعلان-قائد-قوات-الامن-الخاصة-مارب-1836740393277690/?_rdc=land_rdr

CONFIDENTIAL ANNEX NOT FOR PUBLIC DISSEMINATION

Annex 66: Case study on relating to detentions by the Government of Yemen

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Annex 67: Assassination of a patient and attacks against medical personnel at Revolution Hospital, Ta'izz (24 March - 5 April 2017)

Annex 68: Houthi-Saleh recruitment of children

1. The Panel conducted investigations aiming to identify individuals and networks operating in Yemen that engage in child recruitment.[1] In Houthi-Saleh controlled areas, there are local networks of former and current fighters and Houthi-Saleh loyalists that continue to recruit children. The Panel has identified two individuals who recruited a total of five children; four subsequently returned to their families and one returned to fighting. Details are contained in confidential annex 69. Of the two recruiters, one was a fighter forced to retire due to injury, the other is a current fighter. The Panel finds that there is a systematic network of recruitment within the Houthi-Saleh forces. Recruiters are deployed to their own residential areas, as they are known to the local population, which enhances the recruitment process.

2. These five cases represent only a fraction of children who have been recruited into Houthi-Saleh forces, sent to the front lines, and then being injured, maimed, or killed in the conflict.[2] The Panel finds that there is prevailing impunity associated with child recruitment. For example, in one incident documented by the Panel, the officers of the '14th October' Police Station in Sana'a initially refused to record a complaint of the abduction of children removed from the parents' custody without their consent, because the children had been recruited (i.e. they were not missing).

3. On 19 October 2017, Hassan Mohamed Zaid, the Sana'a based minister for youth and sports, and the head of the al-Haq party, called for the closure of schools with students being sent to battle-fronts. He stated on social media:

> "*What if school study stops one year and all the youths and their teachers go for military service?*
>
> *Is not this going to feed the fronts with hundreds of thousands for decisive battle?*
>
> *High school students used to be forced to stop study for one year waiting for documents*
>
> *What is the difference then?*"

5. He added: "*Wouldn't we be able to reinforce the ranks with hundreds of thousands (of fighters) and win the battle*?", and then criticized those who complained about his proposal stating that: "*People close the schools under the pretext of a strike and when we think about how to take advantage of this situation, they take offence*".[3] The Panel notes that on 21 October 2017, after widespread public criticism, he changed his statement to say that he originally referred to university students.

6. On 6 November 2017, the Saudi Arabia-led coalition issued a statement listing Hassan Mohamed Zaid as one of the forty men "*responsible for planning, executing and supporting various terrorist activities by the Houthi terrorist group*".[4] It is not clear what 'terrorist activities' were undertaken by the said individual. The Panel continues to investigate.

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[1] In this annex, individuals are considered to be children when they were under 18 years of age at the time of their recruitment. The "Optional Protocol to the Convention on the Rights of the Child on the involvement of children in armed conflict", to which Yemen is a party (2 March 2007), states that armed groups that are distinct from the armed forces of a State should not, under any circumstances, recruit persons under the age of 18 years. See Article 4(1).

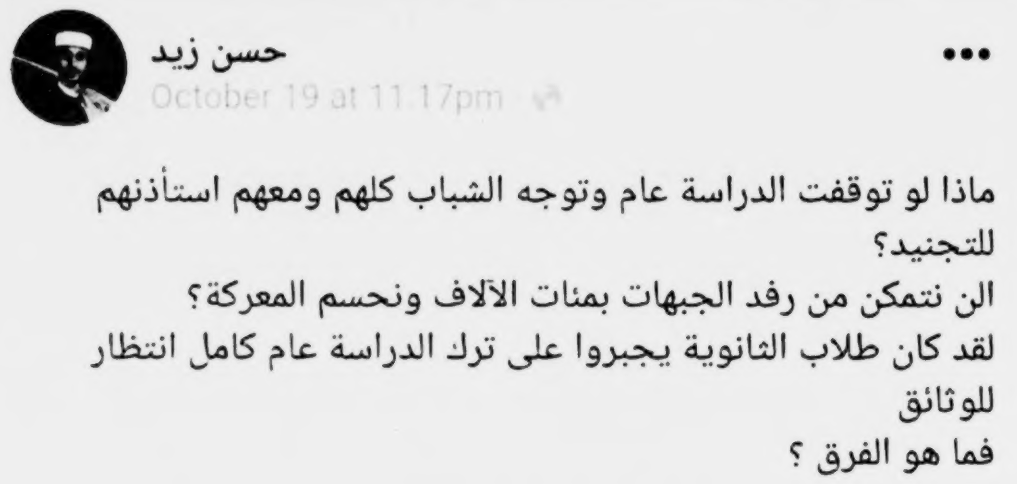
[2] See S/2017/821. The United Nations verified 517 cases of the recruitment in Aden, Abyan, Amran, Sana'a and Ta'izz. 359 verified cases of recruitment and use were attributed to the Houthis and affiliated forces. Other perpetrators included the anti-Houthi forces, Ansar al-Sharia, AQAP and the Yemeni Armed Forces.

[3] https://www.theguardian.com/world/2017/oct/20/yemen-minister-send-out-children-to-war. All relevant tweets are with the Panel.

[4] https://english.alarabiya.net/en/News/gulf/2017/11/06/Saudi-Arabia-announces-millions-of-dollars-in-bounty-for-40-wanted-in-Yemen-.html.

Figure X.1

Original tweet by the minister for youth and sports, 19 October 2017



حسن زيد

October 19 at 11:17pm

ماذا لو توقفت الدراسة عام وتوجه الشباب كلهم ومعهم استأذنهم للتجنيد؟
الن نتمكن من رفد الجبهات بمئات الآلاف ونحسم المعركة؟
لقد كان طلاب الثانوية يجبروا على ترك الدراسة عام كامل انتظار للوثائق
فما هو الفرق ؟

7. The fact that a minister in the Houthi-Saleh forces openly advocated for the closure of schools and recruitment of children/students is particularly problematic in a context where students, parents, and teachers alike, are feeling the effects of the economic crisis, are struggling to continue education of children, and are resisting proactive child recruitment networks in their villages. This type of statement, from a person in authority, may be construed as implicit authority and encouragement for the continuing Houthi-Saleh recruitment and use of children in conflict. The Panel finds that this type of incitement is a threat to the peace, security, and stability in Yemen.

8. The Panel finds that the following also contributes to increased recruitment of children:

(a) The non-payment of salaries results in children being compelled to search for economic alternatives on behalf of their families. The only well-paid employment opportunities for children are with the Houthi-Saleh forces (the children are paid approximately 15,000 – 20,000 Yemeni Riyal (60 – 80 US$);

(b) The disruption to education means that children often have little to do, this making them vulnerable to street level recruitment;

(c) Parents cannot offer financial or lifestyle alternatives to induce the children to return to families after they have been recruited;

(d) As families continue to live in areas controlled by the Houthi-Saleh forces, they are afraid to speak out against the recruitment, thus allowing recruitment to continue unchallenged; and

(e) For parents with financial means, the airport closure and visa restrictions means that these parents cannot send or take the children out of the country for their own protection.

9. There are also parents whom willingly, or are forced to, allow their children to be recruited because of financial considerations or loyalty to the cause.[5]

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[5] Multiple human rights activists.

10. The Panel finds that Houthi-Saleh leadership also incurs command responsibility for these continuing violations,[6] and underscores that in current prevailing circumstances of regular and widespread recruitment and use, such recruitment and use of children in conflict is, at minimum, a war crime.[7]

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[6] Under customary IHL, commanders and other superiors are criminally responsible for war crimes committed by their subordinates if they knew, or had reason to know, that the subordinates were about to commit or were committing such crimes and did not take all necessary and reasonable measures in their power to prevent their commission, or if such crimes had been committed, to punish the persons responsible. See, for example, ICRC Customary IHL Rule 153. The Panel highlights that not only military personnel but also civilians can be liable for war crimes based on command responsibility.

[7] See Statute of the International Criminal Court Article 8 (e) (vii). See also ICRC Customary IHL Rules 136 and 137.

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Annex 69: Confidential case studies of Houthi-Saleh recruitment of children

Annex 70: IHL violations relating to Sana'a airport closure

I. Introduction

1. The Saudi Arabia-led coalition closed Sana'a airport to all commercial traffic on 9 August 2016. On 6 November 2017, the Saudi Arabia-led coalition announced that it would temporarily close "all Yemeni ground, air, and sea ports… while taking into consideration the continuation of the entry and exit of humanitarian supplies and crews"[1] On 23 November 2017 the Saudi Arabia-led coalition announced the opening of the airport to UN flights and by 29 November 2017, ICRC, MSF and UN flights had resumed operations into the airport.

2. Yet, the airport has continued to be inaccessible to commercial flights since August 2016. This has created significant humanitarian issues for those who are chronically ill, who cannot leave the country to seek medical treatment by alternative routes, and whose access to medical care has been affected by the conflict;[2] and for those with protection concerns or who are fleeing persecution and cannot travel via other means.

II. IHL and HR violations relating to patients seeking medical care abroad

3. According to the Sana'a based ministry of health, as at August 2017 approximately 10,000 Yemenis are estimated to have died from health conditions for which they were seeking medical treatment abroad.[3] The Panel was provided details on two cases where patients have died, where the closure of the airport potentially contributed to their inability to obtain timely medical treatment.[4]

4. Because of the conflict, many patients in need of immediate medical treatment do not have access to the requisite medical assistance within Yemen, which may necessitate seeking treatment abroad. For example, the conflict has resulted in:

(a) Limited medical resources due to the non-payment of salaries and lack of hospital operational funds;

(b) Closure or destruction of hospitals;

(c) Attacks against hospitals and health care workers;

(d) Prioritized treatment for fighters and war wounded in some hospitals; and

(e) Lack of medical supplies, equipment, and specialists.

5. On one occasion, a team of doctors was cleared by the Saudi Arabia-led coalition to arrive at Sana'a International Airport to treat the former President of Yemen,[5] but this option is not available for others seeking medical treatment unavailable in Yemen. Thus, the options for civilians seeking treatment aboard are currently as follows:

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[1] http://www.spa.gov.sa/viewfullstory.php?lang=enandnewsid=1684682#1684682

[2] A person's medical condition or access to treatment may be said to be affected by the conflict when, for example, a medical facility on which their treatment depends has been destroyed, when they do not have access to medical personnel or facilities on which they depend owing to the conflict, or where they do not have access to medicines vital for their ongoing treatment for reasons related to the conflict. See Commentary to the Common Article 3 of the Geneva Conventions.

[3] See https://www.nrc.no/news/2017/august/yemen-airport-closure-killed-more-people-than-airstrikes/.

[4] Confidential sources.

[5] https://uk.reuters.com/article/uk-yemen-security-saleh/yemens-ex-president-saleh-stable-after-russian-medics-operate-idUKKBN1CJ0FS.

(a) Leave through Sayun, which takes 24 hours by public transport from Sana'a, or by private transport at a cost of approximately US$ 200;[6]

(b) Leave through Aden, which takes 12 hours by public transport from Sana'a, or by private transport at a cost of USD approximately US$ 280 – 350;[7] or

(c) Leave by boat, often using human smuggling and trafficking routes.

6. The fact that many countries have recently imposed stringent visa restrictions on Yemenis also compounds the difficulties for patients seeking medical treatment abroad.

7. Common Article 3 of the Geneva Convention - which is binding on Saudi Arabia and the other Saudi-Arabia-led coalition member States authorizing and enforcing the air blockade over Sana'a - provides that civilians and other persons who do not take part in hostilities, who are sick or wounded shall, in all circumstances be protected and cared for. This protection given to the wounded and the sick is meaningless without access to requisite medical assistance, including medical supplies and medical personnel. Article 7 of Additional Protocol II further strengthens that right of the wounded and sick.

8. Under IHRL the obligation to ensure the right to health of individuals is also binding on Saudi Arabia-led coalition member States.[8] States are legally bound under IHRL to ensure that their policies create an enabling environment for available and accessible health care for all in the shortest possible time,[9] including allowing patients have access healthcare in other countries.[10]

9. The Saudi Arabia-led coalition has not exercised its discretion to impose restrictions and conditions on travel through the Sana'a International Airport, as may be required by military necessity,[11] while also allowing those requiring immediate treatment abroad the opportunity to do so. Instead it has exercised a blanket ban since August 2016 on travel to obtain medical services, except for the temporary lifting of the ban on selected medical flights immediately following the Sana'a Funeral Hall air strike and, more recently, for the flight carrying medical personnel that treated former president Ali Abdullah Saleh (YEi.003).

10. In this context, the Panel concludes that the complete and unconditional closure of Sana'a International Airport to those genuinely seeking immediate medical treatment abroad, particularly those

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[6] Sources organizing "medical tourist" visits.

[7] Ibid.

[8] See for example, the Universal Declaration of Human Rights, Article 25, International Covenant on Civil and Political Rights (ICCPR), Articles 6 and 12, and International Covenant on Economic, Social and Cultural Rights (ICESCR), Article 12.

[9] World Health Organization (WHO), Right to Health: Crossing barriers to access health in the occupied Palestinian territory, 2014 - 2015. See also Additional Protocol II, Article 7(2), and ICRC Study on Customary International Humanitarian Law (2005), Rule 110.

[10] Committee on Economic, Cultural, and Social Rights, General Comment No. 14, The right to the highest attainable standard of health (article 12 of the International Covenant on Economic, Social and Cultural Rights), 11 August 2000, UN Doc. E/C.12/2000/4. "To comply with their international obligations in relation to article 12, States parties have to respect the enjoyment of the right to health in other countries, and to prevent third parties from violating the right in other countries..."

[11] The Saudi Arabia-led coalition spokesperson stated that "closing Sana'a airport and limiting it to relief efforts came as a precaution to ensure the safety of all inbound commercial and cargo flights, due to the Huthi (sic) armed militia's attempts to smuggle arms into the country. As a result, we have assigned airports in liberated, and safe cities as alternatives at the request of the Yemeni government. Thus, these precautionary measured should not be stigmatized as cause of suffering for Yemeni people". He added, "should airport management and security be conducted properly, insuring the safety of all inbound flights and stopping arms smuggling, Joint Forces Command is prepared to restore normal flight activity". http://www.spa.gov.sa/viewfullstory.php?lang=enandnewsid=1655689#1655689.

who do not have any other meaningful alternatives, is an infringement of Common Article 3. The WHO has held that denying access to medical care in some circumstances could constitute a war crime.[12]

11. Although the Saudi Arabia-led coalition appears to justify the measures taken in respect of the Sana'a International Airport by referring to resolution 2216 (2015),[13] there is no provision in that resolution that supports a complete blockade on commercial flights into Sana'a International Airport. Additionally, the Saudi Arabia-led coalition is not currently complying with paragraph 17 of resolution 2216 (2015) on its reporting requirements. Since the resolution came into effect, the Saudi Arabia-led coalition has only issued one report to the Committee, which related to ten inspections.[14]

III. Conclusion

12. The Panel does not dispute that the Saudi Arabia-led coalition may take such legitimate measures it deems appropriate, as required under military necessity, to control air traffic into geographical areas controlled by the Houthi forces. Yet, the Panel finds that:

(a) The Saudi Arabia-led coalition has not demonstrated the military necessity for the closure of the airport to persons genuinely seeking immediate medical treatment abroad, particularly when there are no real alternative travel routes; and

(b) That it is the responsibility of the member States of the Saudi Arabia-led coalition, and not the United Nations, to ensure that the Saudi Arabia-led coalition member States comply with their obligations under IHL and IHRL.

13. The Panel notes that the Saudi Arabia-led coalition has offered to open the airport under the supervision of the United Nations;[15] an offer not taken up by the United Nations.[16]

III. IHL violations relating to persons seeking protection abroad

14. The Panel investigated five situations relating to six individuals who wished to leave Yemen, on the basis that there were immediate threats against their life and liberty in Houthi-Saleh controlled areas. These individuals had all been subjected to arrest, detention, abuse, and/or persecution and other human rights violations by Houthi-Saleh forces/officials, but feared for their physical safety in Government controlled territory.

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[12] World Health Organization (WHO), Right to health: Crossing barriers to access health in the occupied Palestinian territory, 2014-2015. United Nations Office of the High Commissioner of Human Rights (OHCHR), Freedom of Movement: Human rights situation in the Occupied Palestinian Territory, including East Jerusalem, Report of the Secretary-General to the United Nations Human Rights Council, February 2016. OHCHR and WHO examined the issue on the right of patients to receive treatment abroad when it considered the right of Palestinians to cross the Rafah border crossing between the Gaza Strip and Egypt to seek medical treatment. The OHCHR has held that "Any exception (to freedom of movement) must comply with international law, which means that restrictions are justified only for imperative reasons of security and only in response to a specific security threat".

[13] http://www.spa.gov.sa/viewfullstory.php?lang=enandnewsid=1655689#1655689. The Saudi Arabia-led coalition spokesperson stated in August 2017 that "the coalition command had and is still working to its best efforts to ensure the safe arrival of all commercial, cargo and relief flights to all Yemeni airports in Sana'a, Aden, Al Hudaydah, Seiyun, Mukalla and Socotra through issuing proper flight permits for all incoming requests, and assigning Bisha National Airport for air traffic management in accordance with UNSCR 2216".

[14] A/AC.56/2015/COMM.28 (KSA ref no UN/SC/378) dated 12 June 2015.

[15] https://www.nytimes.com/2017/08/10/world/middleeast/saudi-arabia-yemen-houthi-rebels-sana-airport.html and http://www.spa.gov.sa/viewfullstory.php?lang=enandnewsid=1655689#1655689.

[16] The UN stated that "the parties to the conflict have the responsibility to ensure the protection of civilians and their access to humanitarian relief, including through the use of airspace and airport". See https://www.reuters.com/article/us-yemen-security-airport/u-n-signals-not-responsible-for-controlling-yemens-main-airport-idUSKBN1AR22Y.

14. UNHAS flights do not transport civilians fleeing persecution,[17] compelling individuals fleeing Houthi-Saleh controlled territory to travel through the South of the country. The risk of arrest and subsequent disappearance in the south and in Ma'rib, which are increasingly being reported in the south, compounds fear that individuals traveling between the north and the south can be targeted in those areas because of their family names, family history, or tribal affiliations.

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[17] UN sources.

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Annex 71: Obstructions to the delivery of humanitarian aid

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Annex 72: Obstructions to humanitarian access and the distribution of humanitarian assistance (2017)

Annex 73: Full list of abbreviations[1]

a/c	Aircraft
AED	Arab Emirati Dinar
AES	Arms and Ammunition Search
a.k.a	Also Known As
AGM	Air-to-Ground Missile
AIO	Iran Aircraft Industries Organization
AIS	Automatic Identification System (maritime)
AK	*Avtomatik Kalishnikov* (assault rifle)
AP	Amended Protocol
APKWS	Advanced Precision Kill Weapon System
AQ	Al-Qaida
AQAP	Al-Qaida in the Arabian Peninsula
ASL	Above Sea Level
ATGM	Anti-Tank Guided Missile
ATGW	Anti-Tank Guided Weapon
ATO	Air Tasking Order
AUAV	Armed Unmanned Aerial Vehicle
AXO	Abandoned Explosive Ordnance
BAT	British American Tobacco
BCP	Border Crossing/Control Point
BMP	Best Maritime Practices
CA	Common Article (to Geneva Conventions of 1949)
CAGE	Commercial and Government Entity (Code)
CBD	Commercial Bank of Dubai
CBY	Central Bank of Yemen
CEP	Circular Error Probability
CFD	Computational Fluid Dynamics
CHA	Coalition Holding Area
CIFOR	Civil Forum for Asset Recovery
CIHL	Customary International Humanitarian Law
CIHLR	Customary IHL Study Rules (ICRC)
CMF	Combined Maritime Force
CN	Peoples' Republic of China
CP	Checkpoint
CRC	Convention on the Rights of Children
DADP	Di-Acetone Di-Peroxide
DC	Direct Current
DIO	Defence Industries Organization (Iran)
DoB	Date of Birth
DPRK	Democratic People's Republic of North Korea
DRC	Danish Refugee Council
DWT	Dead Weight Tonnage (Tonnes)
E	East
EGBU	Enhanced Guidance Bomb Unit

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[1] Including footnotes and annexes

EO	Explosive Ordnance
ER	Extended Range
ER-SRBM	Extended Range Short Range Ballistic Missile
ESH	Explosive Storehouses
EUC	End Use Certificates
F	Foreign Investor Stake / Fuel
FAE	Fuel Air Explosion
FFR	Free Flight Rocket
FFV	Fuel Filling Valve (SCUD)
FFDV	Fuel Filling and Drainage Valve
FOB	Free On Board
F of I	Figure of Insensitiveness
FR	France
FS	French Ship
FV	Fishing Vessel
FZC	Free Zone Company
g	Gravity (9.81m/s)
GBP	Great Britain Pounds (sterling)
GBU	Guidance Bomb Unit
GC	Geneva Conventions
GCC	Gulf Cooperation Council
GDP	Gross Domestic Product
GE	Germany
GGE	Group of Governmental Experts (GGE)
GIS	Geographical Information System
GLC	Global Logistics Cluster
GPC	General People's Congress
GPS	Global Positioning System
GT	Gross Tonnage
GWT	Gross Weight Tonnage
H	Height
HE	High Explosive
HEAT	High Explosive Anti-Tank
HESA	Iran Aircraft Manufacturing Industries
HMTD	Hexa-Methylene Triperoxide Diamine
HRW	Human Rights Watch
HSV	High Speed Vessel
IAIO	Iranian Aircraft Industries Organization (HESA)
ICC	International Criminal Court
ICJ	International Court of Justice
ICRC	International Committee of the Red Cross
ICU	Intensive Care Unit
IDP	Internally Displaced Person(s)
IED	Improvised Explosive Device
IHL	International Humanitarian Law
IHRL	International Human Rights Law
IMC	International Medical Corps
IMO	International Maritime Organization
IMS	Inertial Measurement System

INS	Inertial Navigation System
IPO	Initial Public Offering
IR	Iran
IRFNA	Inhibited Red Fuming Nitric Acid
IRGC	Iranian Revolutionary Guards Corps
ISIL	Islamic State in Iraq and the Levant (*Daesh*)
ISTAR	Intelligence, Surveillance, Targeting and Reconnaissance
IT	Italy
JIAT	Joint Investigation and Assessment Team (Saudi Arabia-led coalition)
KE	Kinetic Energy
KIIC	Kamaran Industry and Investment Company
KKIA	King Khaled International Airport
km	Kilometre(s)
KR	Republic of Korea
L	Litres Length
LAWS	Lethal Autonomous Weapons System
LC	Letters of Credit
Li-Ion	Lithium Ion
LLC	Limited Liability Company
LLI	Lloyds List Intelligence
LNG	Liquefied Nitrogen Gas
LTTE	Liberation Tigers of Tamil Eelam
m	Metres
m^3	Cubic Metres
MARAD	Maritime Administration (US Department of Transport)
MCCB	Moulded Case Circuit Breaker
MEKP	Methyl Ethyl Ketone Peroxide
MG	Machine Gun
mm	Millimetre(s)
'MoPIC'	ministry of planning and international cooperation
MOU	Memorandum of Understanding
MRBM	Medium Range Ballistic Missile
MSA	Mine Safety Appliances Limited (USA)
MSN	Manufacturer's Serial Number
MSR	Main Supply Route
MT	Mega-Tonne(s) / Merchant Tanker
MV	Merchant Vessel
MWMS	Moveable Weapon Mount System
N	North / Newton(s)
NATO	North Atlantic Treaty Organization
NBD	National Bank of Dubai
NEQ(C)	Net Explosive Quantity (Content)
NFP	National Focal Point
NGO	Non-Governmental organization
NK	Not Known
NL	Netherlands
nm	Nautical Mile
NO	Norway
NRC	Norwegian Refugee Council

NSB	National Security Bureau
'NSB'	Sana'a based national security bureau
NSN	NATO Stock Number
O	Oxidiser
OCHA	Office for Coordination of Humanitarian Affairs (UN)
OFAC	Office of Foreign Assets Control (US Treasury)
OFV	Oxidiser Filling Valve (SCUD)
OFDV	Oxidiser Filling and Drainage Valve
P	Private Investor Stake
PDRY	People's Democratic Republic of Yemen
PBIED	Person-Borne IED ('suicide bomber')
PCB	Printed Circuit Board
PIL	Pacific International Lines Limited
POE	Panel of Experts
PRV	Pressure Relief Valve
PSO	Political Security Organization
'PSO'	Sana'a based political security organization
PWA	Port Waiting Anchorage
QAR	Qatari Riyal
QNB	Qatar National Bank
RCIED	Radio Controlled Improvised Explosive Device
RCL	Recoilless Rifle
RDX	Hexogen or Cyclotrimethylenetrinitramine
RPG	Rocket Propelled Grenade
RSADF	Royal Saudi Air Defence Forces
RSAF	Royal Saudi Air Force
RSN	Royal Saudi Navy
SAA	Small Arms Ammunition
SAM	Surface-to-Air Missile
SAR	Saudi Riyal
SEMG	Somalia and Eritrea Monitoring Group
SBI	Shahid Bagheri (Bakeri) Industries (Iran)
SBIG	Shahid Bagheri (Bakeri) Industrial Group (Iran)
SGBV	Sexual and Gender-Based Violence
SHIG	Shahid Hemat Industrial Group (Iran)
SLOC	Sea Lines of Communication
SMC	Security and military committee (Houthi-Saleh)
SOLAS	International Convention for the Safety of Life at Sea
SPC	supreme political council
SPM	Ships Protection Measures
SRBM	Short Range Ballistic Missile
SRC	supreme revolutionary council
STC	Southern Transitional Council
STCO	Shaher Trading Company Limited
SVIED	Suicide Vehicle IED
TAN	Tangent
TATP	Tri-Acetone Tri-Peroxide
TBC	To Be Confirmed
TCBM	Transparency and Confidence Building Measures

TCC	Trilateral Coordination Committee
TFTC	Terrorist Financing Target Centre
TNT	Tri-Nitro Toluene
TR	Turkey
UAE	United Arab Emirates
UAV	Unmanned Aerial Vehicle
UK	United Kingdom
UN	United Nations
UNCT	UN Country Team
UNESCO	UN Educational, Scientific and Cultural Organization
UNHAS	UN Humanitarian Air Service
UNHCR	UN High Commission for Refugees
UNICEF	United Nations Children's Fund
UNVIM	UN Verification and Inspection Mechanism
USA	United States of America
USAF	United States Air Force
USDA	United States Department of Agriculture
USN	United States Navy
USS	United States Ship
US$	United States Dollar(s)
VHF	Very High Frequency
VLCC	Very Large Crude Carrier
UXO	Unexploded Ordnance
W	Width
WBIED	Water-Borne Improvised Explosive Device
WFP	World Food Programme
WSS	Weapon Storage Sites
YAF	Yemen Armed Forces
'YCA'	Sana'a based Yemen customs authority
YEITI	Yemen Extractive Industries Transparency Initiatives
YER	Yemeni Riyal
YPC	Yemen Petroleum Company